

OCTOBER, 1909

OCT 4 1909

AMERICAN CARPENTER AND BUILDER



465
563
10

THE WORLD'S GREATEST BUILDING PAPER

A decorative frame containing a fireplace mantel with various objects (a clock, a vase, a lion, a vase, a clock) and a fireplace opening. The floor in front of the fireplace is checkered.

HOME BUILDERS
NUMBER

TH
A25

Would You Break Your Neck for a Dollar?

You would not. Neither would you wish to have members of your household fatally injured or permanently disabled while washing windows by the old method, when this device can be attached at small expense, overcoming all danger; also permitting the entire window to be screened, thereby giving better ventilation, as both sash are swung inward. Also many other advantages.

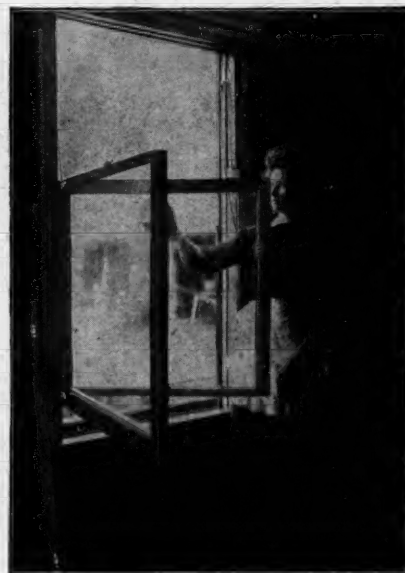
Easy to install. Never get out of order

So Simple a Child Can Wash the Windows Now

The only cutting done is the stops on right hand side of windows to allow windows to swing in. The attachment with a screw driver is all that is required after sawing stops to swing any sliding window up to 6x8 foot



Lower Sash Swung Into Building



Both Sashes Swung Into Building

No mutilation of sash or frame. They can be installed on any sliding window, old or new. Nothing to break or wear out. Simplicity, economy, safety and comfort

All women have a horror of cleaning windows, and justly so, as without this improvement it could only be done imperfectly and with great danger to life and health, besides being embarrassing and hardly modest.

This device can be applied to old and new windows, and no alteration of the frame or sash is required, nor is there any injury to or defacement of the woodwork. Anyone old enough to clean a window can use it. There is absolutely no interference with screens, shades, curtains, awnings or double windows.

Made of steel and finished in oxidized, dull black, dull brass and nickel plated. Sample set, including screws, with drawing and instruction sheet, will be sent upon receipt of 25 cents to defray expressage.

CORRESPONDENCE SOLICITED. AGENTS WANTED.

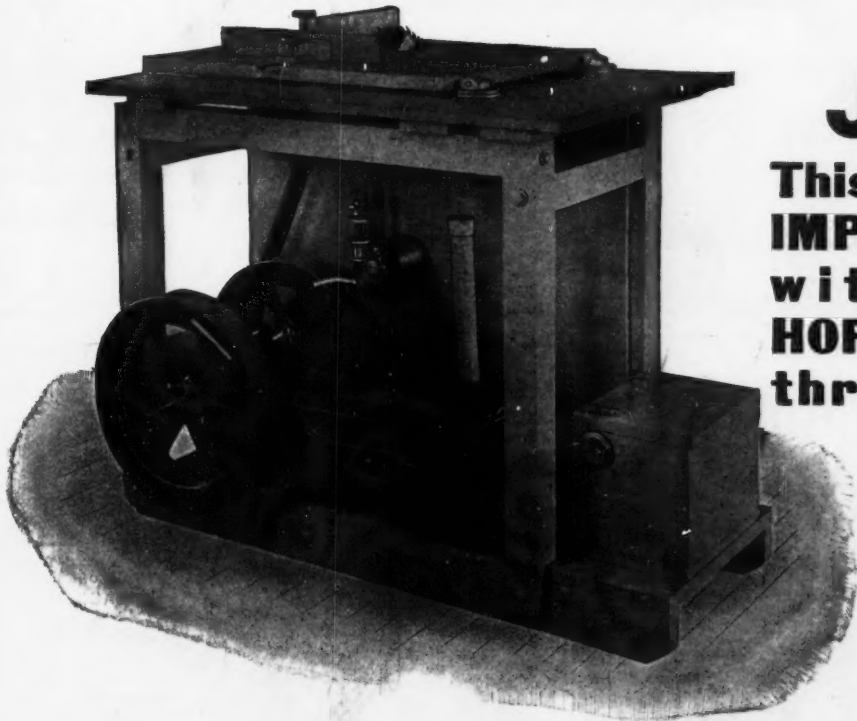
The Patented Window Attachment Co.

(Not Inc.)

Main Office
W. J. BLAKE, Mgr.
443 North State Street, CHICAGO

New York City Office
1358 Broadway
NEW YORK CITY, N. Y.

Do Your Own **MILLWORK** ON THE **JOB—**



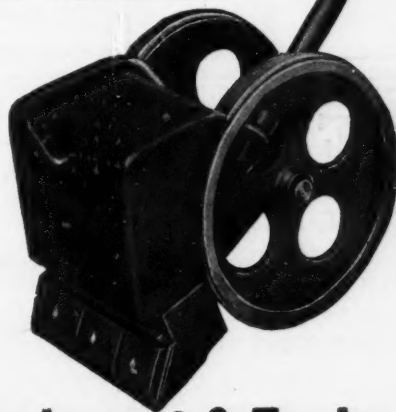
This is our **NEW**
IMPROVED RIG
with **WATER**
HOPPER Cooled
three **HORSE**
ENGINE.

The "Little Shaver" Portable Saw Rig

THIS rig, ready to start when it reaches you, weighs 520 pounds crated; includes two saws, cross-cut and rip; dado head for plowing window and door frames, emery wheel for sharpening your tools, wrench, etc. The engine furnished with this outfit is specially built for this kind of a rig, and it has a belt tightener attachment which keeps the belt from getting loose and can be adjusted in a few minutes. It is water hopper cooled and will develop three horse power under continuous brake test, which gives an abundance of power to run the saw.

WRITE
For Our
Folder and
SPECIAL
AUGUST
PRICE

The "Little Shaver" Floor Scraper



THE simplest and best floor scraping machine on the market. Has direct pressure on the knife, the handle having no pressure bearing control, as in other floor scrapers. With the entire weight on the blade gives the knife a uniform pressure at all times, with no possible chance of jumping and making a wavy floor.

Machine weighs 100 lbs. boxed for shipment.

Inter-State Equipment & Engineering Co., Old Colony Bldg.
Chicago, Ill.

WATER
FIRE
AND
LIGHT
-NING
PROOF

"TITELOCK" METAL SHINGLES

ARE THE EASIEST AND QUICKEST SHINGLES TO LAY

EMBOSSED
"MILCOR"
CORNICES

VENTILATING
"TORPEDO"
SKYLIGHTS



"TITELOCK"

Painted Tin Shingles are Superior to Wood
Galvanized Shingles are Superior to Slate
Copper Shingles are Superior to Tile
Leading Architects always Specify
them because they make the
Best Roof Covering
Send for Samples and Booklet

"Invisible Joint"
STEEL
CEILINGS
SEND FOR CATALOG

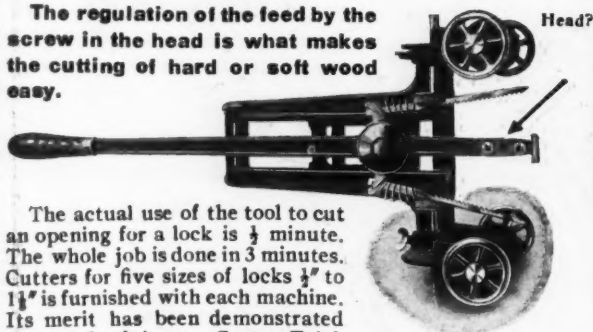
**MILWAUKEE
CORRUGATING CO.**
MILWAUKEE, WIS. KANSAS CITY, MO.

EAVES TROUGH,
CONDUCTOR PIPE,
ELBOWS, RIDGE
ROLL, SHEET METAL
ROOFING and SIDING
SEND FOR PRICE LIST

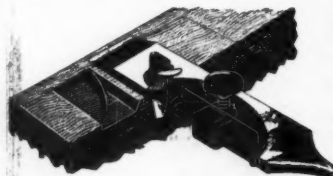
Miller's Lock Mortiser

IS SCIENTIFIC

The regulation of the feed by the screw in the head is what makes the cutting of hard or soft wood easy.



The actual use of the tool to cut an opening for a lock is $\frac{1}{2}$ minute. The whole job is done in 3 minutes. Cutters for five sizes of locks $\frac{1}{2}$ " to $1\frac{1}{2}$ " is furnished with each machine. Its merit has been demonstrated thousands of times. *Sent on Trial.*



Butt Mortiser

Cuts the seats for butt hinges in doors, jams and other work. It does the work in one-third the time and makes a neat, clean, accurate job. Price, including rule gauge, 75 cents.

A. W. Miller Mfg. Co.

Western Office:
RIVERSIDE, CALIF.

Main Office:
CINCINNATI, OHIO.



THE NEW SASGEN Circle Swing Derrick

Light in weight, speedy in operation, all malleable castings, weight 250 lbs., CAPACITY 1000 to 1500 LBS.

Manufactured by
SASGEN BROS.

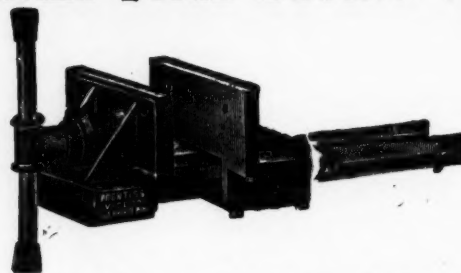
2744 Lincoln Ave.
(Old No. 665.)
CHICAGO, ILL.

\$35.00

Fully equipped. Ready for use
F. O. B. Chicago.

Sold on trial to all reliable contractors. Our catalogue is FREE for the asking.

BLAKE QUICK ACTING VISE



For Cabinet Makers and Wood Workers. Simplest—Strongest—Cheapest—Best

Send for Catalogue of all kinds of Vises
PRENTISS VISE COMPANY, MAKERS
44 Barclay Street, New York, U. S. A.



THE HAVEN FLOOR PLANER

HERALDS THE NEW ERA IN FLOOR SCRAPING

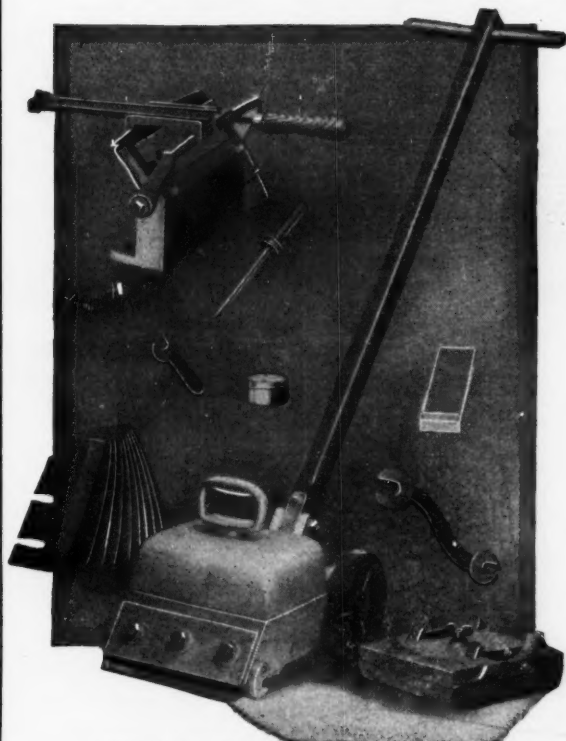
Eliminates all defects found in other floor machines. Does away with the man-killing toil of the heavy-weight machine. It embodies the mechanical principle of the plane. Planes and scrapes floor at one operation. Does better work than most hand work. Most rapid scraper on the market.

"Wavy" Floors an Impossibility

Makes floor scraping simple and agreeable. Particulars on request.

THE HAVEN MFG. CO. : : RACINE, WIS.

IT COSTS NOTHING



THE ACME FLOOR SCRAPING OUTFIT

To Give the

ACME FLOOR SCRAPING OUTFIT A TRIAL

If you are thinking of getting a Floor Scraper you certainly want to get the best and the only sensible way to do is to

TRY BEFORE YOU BUY

Let me send the Acme Outfit to you on

A WEEK'S FREE TRIAL

basis at my expense. You can then give these machines a thorough test and if they do not meet with your approval simply send them back. Can you afford to pass up this offer.

Further information and booklet mailed on request.

JOSEPH MIOTKE

247 Lake St. MILWAUKEE, WIS.

ACKERMANN'S "MAKE GOOD" OFFER

"More Work, Easier Work, Better Work than any Other Floor Scraper Made or the Entire Outfit is Free"

You run no risk in ordering Ackermann's Rapid Floor Scraper sent on Free Trial. You don't have to pay a dollar down, not even the express charges.

Besides this you receive free with the machine, a complete Ackermann Knife Sharpening Outfit which insures the successful use of the machine by even an amateur. This knife sharpener practically works automatically and will put an absolutely perfect edge on the knife blade in less than two minutes without removing the blade from the machine.

Ackermann's New Knife Sharpener works perfectly on the blade of any floor scraper. It cures all "Knife Troubles."

Real success in the use of any floor scraper depends largely upon the cutting edge maintained on the knife blade that actually does the work. No machine will do the work well unless the blade is kept constantly sharp. Up to the present time the average operator of any floor scraper made, has had much trouble in doing good work, quick, because sharpening the blades was very difficult.

Send for Booklet and Information.

Great Free Trial Offer

We will ship you on free trial, prepaying all charges, both the Ackermann Rapid Floor Scraper and Ackermann's New Knife Sharpener. If they prove satisfactory, you purchase the machine, and the knife sharpening outfit is given you free. If not, return both at our expense. It costs you nothing to find out whether or not our claims are true. Write today.

J. B. ACKERMANN CO., 100 Pearl Street
GRAND RAPIDS, MICHIGAN

SELLING AGENTS

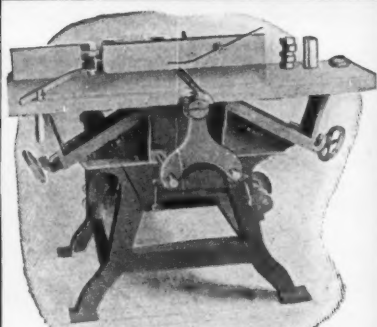
Jos. Woodwell Co., Pittsburg, Pa.
Tallmadge Hdw. Co., Columbus, O.
John F. Baker, Dayton, O.
Crane & Bliss Hdw. Co., Newark, O.
Raymer Hdw. Co., St. Paul, Minn.
N. W. Parquet Floor Co., Minneapolis, Minn.
C. A. Baeuerlen Hdw. Co., Winona, Minn.
Saginaw Hdw. Co., Saginaw, Mich.
Stambaugh-Thompson Co., Youngstown, O.
Kelley Hdw. Co., Duluth, Minn.
Pinell-Engler Lumber Co., Franklin, Ind.
W. F. Miller & Son, Barborton, O.
Holt Lumber Co., Oconto, Wis.
Warner Hdw. Co., Minneapolis, Minn.
Morley Bros., Saginaw, Mich.
Clements & Smith, Minneapolis, Minn.
Driscoll Bros. & Co., Ithaca, N. Y.

Machine in position, ready to Sharpen Blade

Arrows point to the Knife Sharpening outfit which fits compactly into machine, out of the way. Knife sharpener sold separately if desired. Price, \$5.00.



DO YOUR OWN MILLWORK



OUR UNIVERSAL WOOD WORKER IS THE MACHINE YOU WANT, AND WHY

Because it is the most practical machine made for the general use of carpenters and builders. With the various attachments it does the work of eight machines. Briefly it is eight machines at the price of one



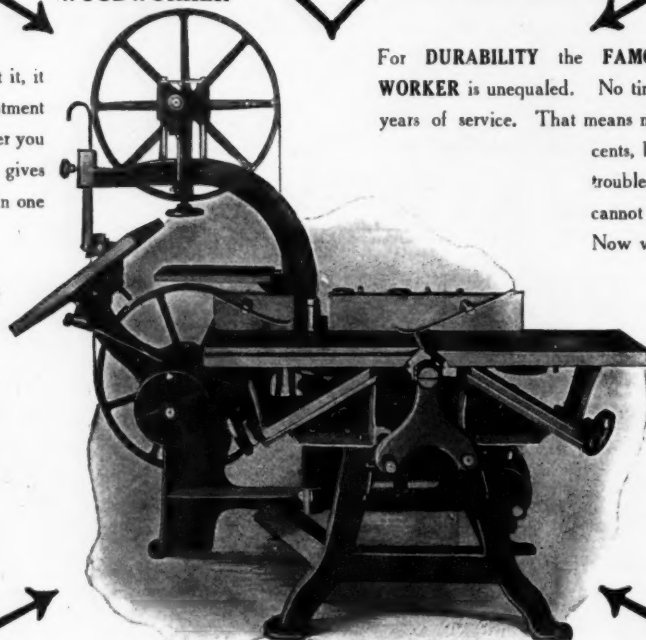
SIXTY DAY SPECIAL FLYER ON THE UNIVERSAL WOODWORKER

Therefore our Famous Universal Wood Worker should claim your immediate attention. Any way you look at it, it is the most economical investment and the greatest profit producer you ever saw. First of all it gives you eight perfect machines in one—that means a big saving in equipment. A big saving in **SPACE, one machine instead of eight.** Then it does the best kind of work, gives you the quality which costs no more to produce, but brings higher prices and bigger profits—that means the largest returns on your investment, and the greatest satisfaction to you and your trade.

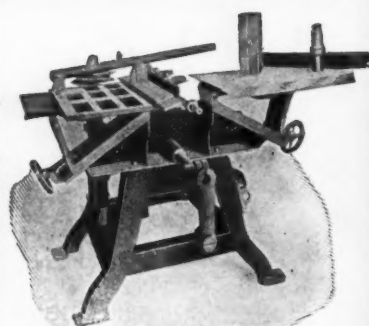
GREATEST MACHINE EVER MADE

For **DURABILITY** the **FAMOUS UNIVERSAL WOOD WORKER** is unequalled. No tinkering, no repairing after a few years of service. That means not only a saving in dollars and cents, but a saving of inconvenience, trouble and delay in orders which cannot be figured in money.

Now we want to show you and tell you in detail just why this **FAMOUS UNIVERSAL WOODWORKER** is such a wonder. We want to know where you stand on this new machine proposition.

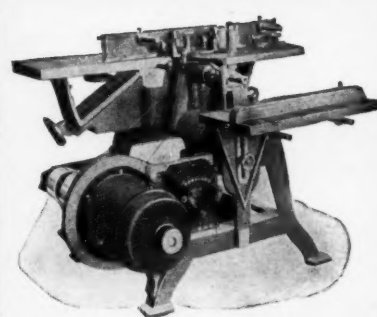


The specially prepared book called Catalogue "B" minutely describes this Woodworker and is sent free upon request. Send for it at once.

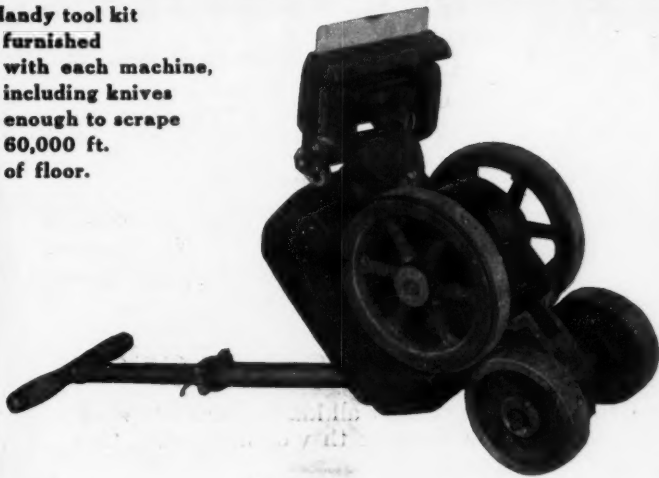


The Special offer which we are making on the Universal Woodworker for sixty days only. We will tell you about for the asking. Do not delay to write us at once.

The Sidney Tool Co.,
SIDNEY, OHIO, U. S. A.



Handy tool kit
furnished
with each machine,
including knives
enough to scrape
60,000 ft.
of floor.



Don't Kill Yourself

By pulling a dead weight

The Powerful Automatic MOTOR SPRING

TRANSFORMS THE OLD DREADED DRUDGERY
OF FLOOR SCRAPING INTO AN AGREEABLE TASK.

It Pulls More than Half the Load
and permits the use of a heavier machine.

The "Triple A" Floor Smoother with its **two detachable weights** is specially adapted for scraping **two distinct classes of floors**, viz:

NEW FLOORS AND OLD FLOORS

For new floors use machine with base weight only (at 130 lbs.) which is heavy enough to insure perfect work.

For old floors, where heavy cutting is required, use machine with both weights (at 150 lbs.) This permits the use of a correspondingly heavy scraper edge which will cut through the grit or varnish. Any desired portion of top weight can be brought to bear over knife.

The ANDERSON AUTOMATIC ADJUSTABLE

Spring Driven Floor Smoother

its the **only** floor scraper machine that has the necessary capacity of weight and power for scraping old floors as well as new.

Other Special Features

Knife Clamp Adjustable to right or left shear cutting angle, or up and down, to conform with any style of scraper edge required.

Knives Positioned in Clamp by the turn of one thumb screw and easily readjusted so as to use all parts of scraper edge before resharpening.

Knife Clamp forms **its own sharpening device** when machine is tilted back, as shown in above cut.

Handle Adjustable to suit height by operation of a spring lever, and can be telescoped for work in small rooms.

Machine and Weights, being separable, are easily transported.

Shipped on approval. Send us the name of your local dealer.

TRIPLE "A" MACHINE CO.

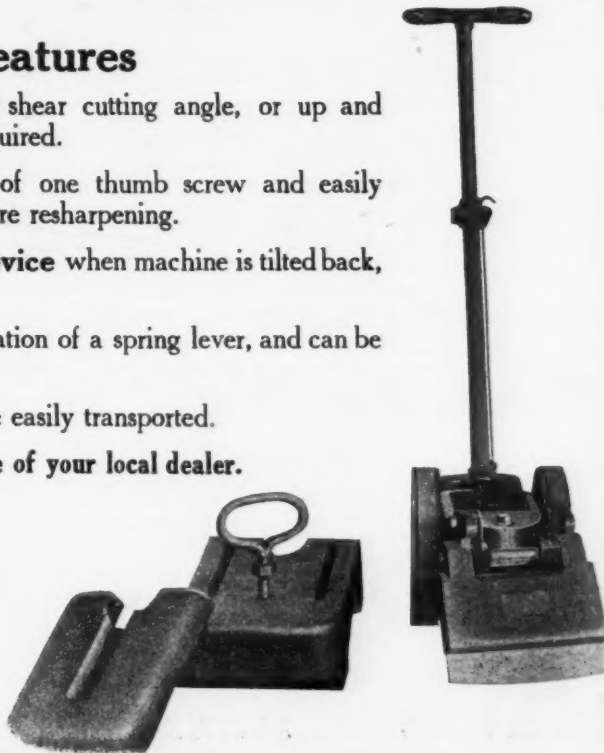
Tenth Floor,

Chicago Opera House Bldg.

CHICAGO,

-

U. S. A.





"A Bit Of Utility"

Guided by its circular rim—instead of its centre—the Forstner Labor-Saving Auger Bit will bore any arc of a circle, and can be guided in any direction.

Doesn't matter how hard the wood is, no consequence whether it is full of knots, or the grain awkward to negotiate. The Forstner Bit works with equal smoothness under any condition and leaves a true polished surface on every job.

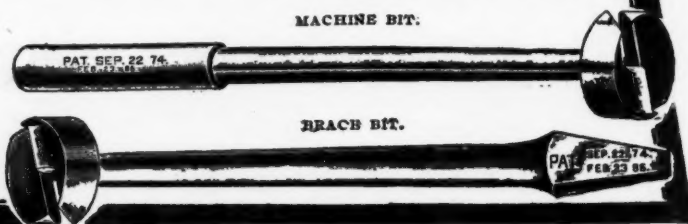
Unequaled for Delicate Work

Supersedes chisels, gauges, scroll-saws, or lath tools combined, for all kinds of delicate work. Cabinet and pattern makers and carpenters are enthusiastic because they do more work than other bits and cost no more.

We can offer something special in the matter of price on sets packed in a sensible box. Send today for particulars and catalog.

The Progressive Mfg. Co.

Torrington, Conn.



"Last a Lifetime and give Satisfaction to the end"



TRADE MARK

D. R. BARTON
1832
ROCHESTER, N. Y.

The Celebrated Barton Planes and Edge Tools for carpenters and all other woodworkers are unequaled by any other make for keen hard, smooth cutting edges. If your hardware dealer does not handle

The Celebrated Barton Tools, send direct for catalog. Be sure and specify "CARPENTER'S CATALOG"

MACH & CO., 20 Brown's Race, Rochester, N. Y.

Established 1872

Everything in Hardware

ELECTRICAL SUPPLIES
OF ALL KINDS

TOOLS
FOR EVERY TRADE

BUILDERS AND GENERAL HARDWARE
MOST COMPLETE LINE IN THE WEST

HAND DUMB WAITERS ELECTRIC

COOLING ROOMS and REFRIGERATORS
FOR HOTELS, RESTAURANTS, MARKETS, ETC.

MARKET AND GROCERS' FIXTURES
BUTCHERS' SUPPLIES

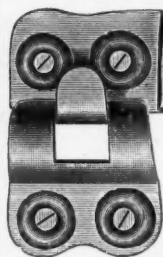
Our Goods are the Best that Money
can Buy—Make us Prove it

Orr & Lockett Hardware Co.

71-73 Randolph St., Chicago

FRESH AIR IN THE BED ROOMS

Don't cut holes in the storm window frames. Hang them with **Gossett Hinges** and swing them out at the bottom for ventilation. Special fasteners lock them securely, opened or closed. Easily put in place, just hook them on. No tools or ladder needed because of the **PATENT GUIDE FLANGES**



1/4 SIZE

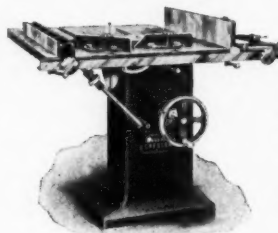
F. D. KEES MFG. CO.

Box 522

BEATRICE, NEB.

Easily taken off to wash windows. Full length screens can be hung with the same fittings. Screens and windows last longer. They'll not be left on after their season, it's so easy to make the change. No loose parts to get lost, nothing to wear out. 50,000 doz. pairs sold this year. If your dealer can't show you **Gossett Hinges** send for complete set for actual test. Free to carpenters, contractors and planing mills.

The World's Best SAW BENCH



This machine is a dandy. It is strongly built. The arbor moves up and down in an arc so that the belt is always tight. Equipped with four gauges, two saws and counter shaft, including our splendid gear operated double acting, tilting, ripping fence.

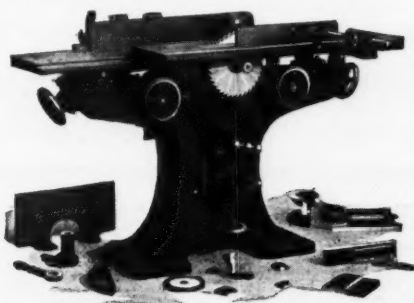
Send for complete catalog of Saw Benches.

THE CRESCENT MACHINE WORKS

38 - 50 SOUTH FRONT STREET, GRAND RAPIDS, MICH.

The Crescent Variety Wood Worker

fills a long felt want in those shops that have varied but limited use for wood-working machinery. It combines a jointer, saw-table, borer, shaper, pole-rounder and tool-grinder.



Machine is valuable to carpenters and contractors, as they can take the machine out on a job, or use it in the shop with equal satisfaction. It can be driven with electric motor or gasoline engine.

Get our 1909 catalogue and find out all about this splendid tool and our elegant line of band saws, disk grinders, planers, planer and matcher, jointers, shapers, saw tables.

The Crescent Machine Company

224 Main Street : LEETONIA, OHIO

WEBER FLOOR SCRAPER

10 Day Free Trial.

I'll let you try a Weber Double Acting Floor Scraper for 10 Days Free.

Test the scraper out to your own satisfaction. Then let your verdict be governed only by your judgment. Don't believe any of my claims—any more than the claims of any other maker of floor scrapers. Believe the machine.

The work is what you are after. Results are the only things that count. Write me today and get one of these scrapers for ten days—on my responsibility. You won't be obligated in any way. Write me direct and ask for one of my booklets and my 1909 price list.

John F. Weber, President,

WEBER MFG. CO.,

670 71st Ave.,

West Allis, Wisconsin.



The Weber Automatic Sharpening Device enables the operator to sharpen a blade without removing it from the machine. The blade can't be sharpened at a wrong angle—so simple a child can use it.

The Floor Scraper

THAT'S ABSOLUTELY PERFECT

Of all the floor scrapers on the market not one can be quite as good as the Star, because no other embraces such durable features.

There's practically nothing about it to wear out. Consider the benefit obtained by the new mechanical principle. The principle that means better work and quicker.

The Star does **clean** work. A patented Ball and Socket device allows the blade to be set diagonally at any angle. This gives a shearing cut to the machine. It means a finished floor **free from planer marks and "waves."** It works the same on old floors as it does on new.

Star Scraper Co. - Elkhart, Ind.

Five Days Free Trial

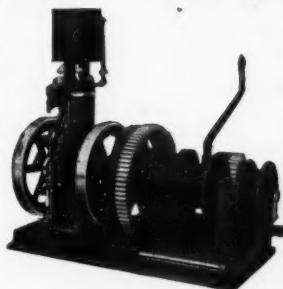
As a duty to yourselves you are asked to test this machine before you spend a cent on floor scrapers. A postal stating you will use the star for five days brings one to your door. We want **you** to be the judge of the best floor scraper. We want you to be thoroughly convinced of Star superiority.

We pay the Freight

Particular literature on request



EVERY CONTRACTOR AND BUILDER



should know about our **Hoist** direct connected with **Gasoline Engine** for use with **Double Platform Material Elevators**. We furnish **Hoist** and **Elevator** complete ready to run. This outfit will elevate more building material at a less cost than by any other known method. Our Bulletin No. 5 will give you all particulars.

BATES & EDMONDS MOTOR CO.

LANSING, MICHIGAN

The Union Floor Scraper

Price \$35.00

A money maker for the contractor and a satisfied customer every time a floor is scraped.

The Union will pay for itself in two days.

SENT ON APPROVAL

GEO. J. BACHMANN

No. 501 Lyon St.
Grand Rapids, Mich.



WE PAY THE FREIGHT

SARGENT'S IMPROVED STEEL SQUARE

The difference between good and indifferent Carpenters' Squares lies in something more than excellence of material and workmanship, which are, of course, among other "Sargent" features—it is in the qualities that increase its all-round efficiency. That is why the practical "Sargent" Standard Steel Square is the universal favorite wherever Squares are used. Our latest model has the scales and markings which enable the carpenter to lay out all kinds of work and to calculate quantities with an ease and accuracy never before thought possible. "A practical treatise on Steel Square" is what several recipients have declared our little publication. Copy free simply by mentioning you saw this ad in the American Carpenter and Builder.

Sargent & Company
New York

1149 Leonard Street

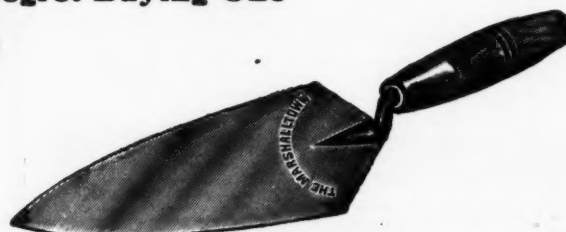
The Best Ever

You Will Never Regret Buying One



Wide Heel Brick Trowel

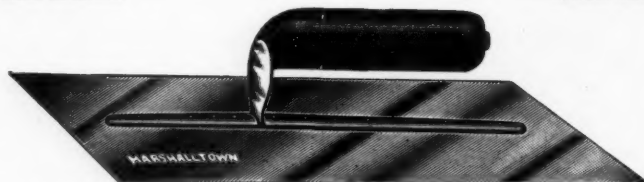
Made of Best Quality Crucible Trowel Steel.
Leather Handle.



Philadelphia Pattern

Best Quality Crucible Trowel Steel.
Wood Handle.

Send For
Catalogue



Send An
Order

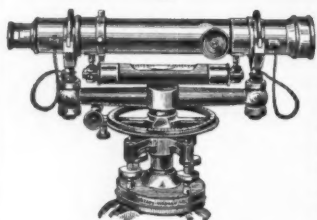
Genuine Marshalltown Trowel

Straight Edges Always. Best Quality Spring Steel Blade. Hardened Mounting
Ten Rivets. Imitated because they are good.

Marshalltown Trowel Co.,

Marshalltown, Iowa

"Sterling" Transits and Levels



On account of their self-evident Superiority in point of Accuracy, Convenience and Durability "STERLING" Transits and Levels are the recognized standard for Building Construction. Special facilities for promptly and economically repairing Instruments of all makes.

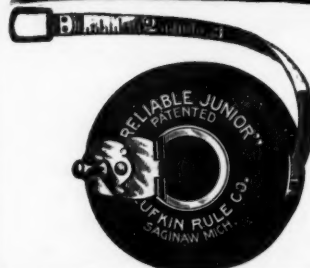
Send for 225 page Catalogue of Surveying Instruments,
Engineering and Drafting Supplies.

ISZARD-WARREN CO., INC.

1122 Vine Street.

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LUFKIN STEEL TAPES and RULES



ARE INDISPENSABLE
FOR ACCURATE WORK

MADE BY
The Lufkin Rule Co.
Saginaw, Mich., U. S. A.
New York London

For Sale Everywhere.
Send for Catalogue.



The American Floor Surfacing Machine

is the original and only two-roll, self-propelling, dust-collecting machine, protected by U. S. and Foreign patents, and the only one that will satisfactorily surface any kind of a wood floor, and has been in general use by contractors, hardwood floor companies and others for over five years.

Its work is rapid, regular, smooth and even, because the power that drives the rolls propels the machine at the same ratio of speed.

Its work has established the standard for surfaced floors, and the only machine whose work is specified by leading architects and meets the requirements of contractors, owners and hardwood floor companies for finely finished, smooth, even floors.

It has surfaced and polished millions of square feet of the finest floors in America and Europe.

Don't be fooled with an imitation, but get a machine that does work in paying quantities, and can be operated in small rooms.

The only one whose construction is guaranteed and sold on its merits.

Write for our book, "Surfacing Floors as a Business."

Manufactured by

The American Floor Surfacing Machine Company
TOLEDO, OHIO

PLATE GLASS

Bath Room Fixtures

FOR RESIDENCES, HOTELS, OFFICE AND APARTMENT BUILDINGS

Absolutely sanitary, require no cleaning, never wear out or show the effects of use. Not affected by hot or cold water. The modern 20th century toilet and lavatory fittings.

PLATE GLASS TOWEL BAR



Price \$1.50

No. 141 24 inches, adjustable. Also made in 30, 36, 42 and 48 inch lengths at slightly higher prices.

Round glass towel bars, \$2.00

Adjustable glass towel shelves, \$3.50, \$4.00, \$6.00

We also sell plate glass with polished edges for table tops, any size, and glass push plates for use in fine residences and apartments, manufacture and re-silver mirrors, etc.

CATALOGUE SENT FREE ON APPLICATION

Geo. H. Anderson & Co.

Manufacturers and Jobbers of Plate Glass Specialties
281-291 W. Superior Street - CHICAGO

L. S. STARRETT SAYS:



"If you find any tools better than Starrett Tools, buy them."

Send for free
Catalogue No. 186.

The L. S. Starrett Co., Athol, Mass., U. S. A.

CARPENTERS

In these days of close competition need the best possible equipment, and this they can have in

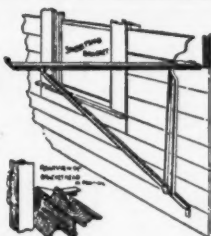
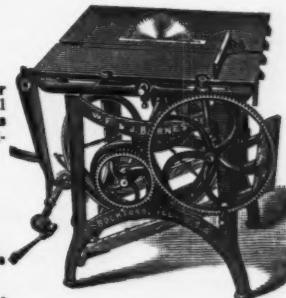
Barnes' Hand and Foot Power Machinery

Our new foot and hand power Circular Saw No. 4, the strongest, most powerful and in every way the best machine of its kind ever made. For ripping, cross cutting, boring and grooving.

SEND FOR OUR
NEW CATALOGUE

W. F. & John Barnes Co.

74 RUBY ST., ROCKFORD, ILL.



Save 1/2 Cost on First Job

Builders' Folding Steel time and lumber, are brackets. Less trouble and are practically

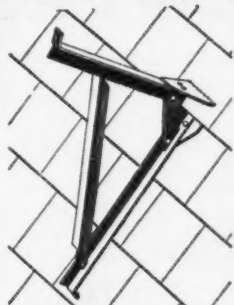
Also Folding Steel

Made entirely of steel. Removed instantly.

Guaranteed to carry all weight necessary for cornice, shingling and other work of like character.

Builders' Supply Co., Majestic Bldg., Detroit, Mich.

Agents Wanted



Scaffold Brackets save safer than old style wood to put up and take down unbreakable.

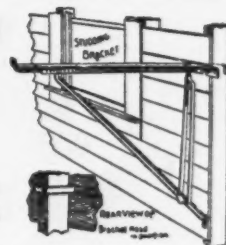
Shingle Brackets.

Can be used for ever. Always ready.

Folds up like jack knife.

Reasonable in price.

Agents wanted in every town.



FAR AHEAD for smooth, easy work and holding edge will be YOUR VERDICT ON TRYING

CHAPLIN'S IMPROVED PLANES

Patented Feb. 14, 1899; Dec. 30, 1900; Dec. 24, 1902

We invite the
Severest
Comparative
Tests



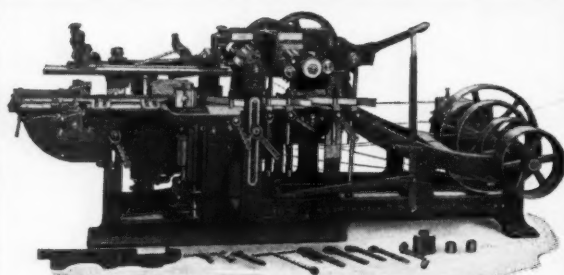
We want you to have a copy of our booklet

"A 'Plane' Talk About a Good Plane!"

We want you to have a copy, for it is a booklet you really need in your business.

We'll gladly send you this booklet with our compliments, promptly upon receipt of your request.

Tower & Lyon Company, 95 Chambers Street, New York



No. 134-A 8" Heavy Molding Machine.

60 YEARS' EXPERIENCE.

This cut shows Smith's new **Heavy 8-inch Molder** which is the result of much careful thought and many years of experience.

The **Frame** is cast whole without inherent strains.

The **Cutter-Spindles** are all made of high carbon steel, carefully turned and ground.

The motion from the clutch shaft is communicated to the train of feed gears by a hardened steel Automobile Roller Bearing Chain, which makes a very powerful and positive feed.

FOR FURTHER PARTICULARS, ADDRESS

H. B. Smith Machine Company

Smithville, N. J., U. S. A.

NEW YORK

CHICAGO

ATLANTA

MEMPHIS

ROTHMOTORS

Are the result of 14 years of EXPERIENCE combined with a desire to produce the BEST.

An example is the

DIRECT DRIVE BAND SAW

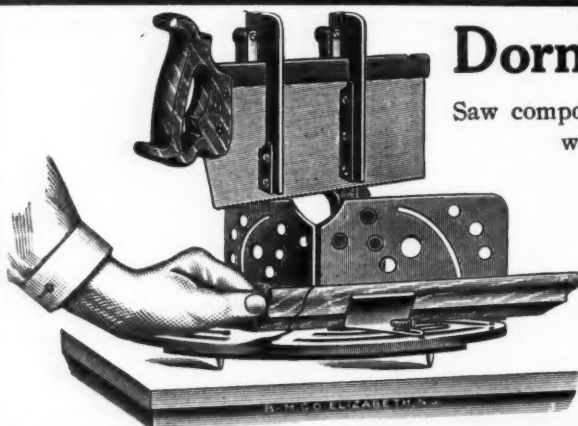
here shown.

Cuts out all unnecessary losses—
Reasonable in cost.
Efficient in operation.

Can be fitted
to your Band
Saw.



ROTH BROS. & CO.
1422 W. ADAMS ST. CHICAGO, ILL.
136 LIBERTY ST., NEW YORK



Dorn's Revolving Mitre Box

Saw compound as well as plain mitres any width
with a back saw 4 inches wide

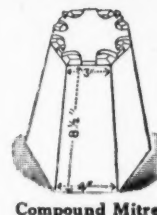
SEND FOR BOOKLET

IT TELLS THE STORY

MANUFACTURED BY

Braunsdorf-Mueller Company

1093 E. Grand Street, ELIZABETH, N. J.



Compound Mitre

"Little Giant" Floor Scraper

Sent on Free Trial
20,000 "Little Giants" are in use

Special Terms

A request from you brings a "Little Giant" to your door—you send no money and we pay all expenses. After you have tested it as thoroughly as you know how, and have found it satisfactory, pay for it. If you don't consider it the best floor scraper in existence, return it at our expense. That's all. Won't you give it this chance today?

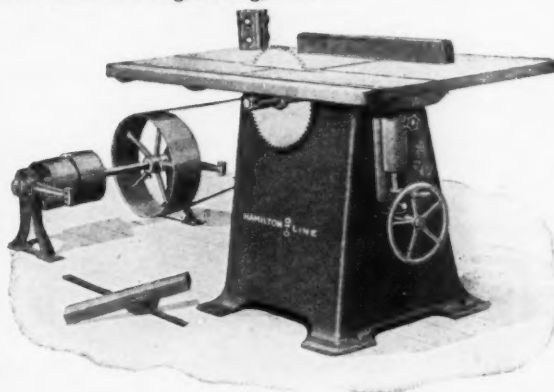
CATALOG AND FURTHER DETAILS ON REQUEST
HURLEY MACHINE COMPANY,

155 South Jefferson Street, CHICAGO
71 First Street, SAN FRANCISCO
1010 Flatiron Bldg., NEW YORK



HAMILTON-CHIO-LINE No. 103

This machine, with or without boring table, is especially designed for a great variety of operations, such as joining, smoothing, planing out of wind, squaring, beveling, tapering, rabbetting, gaining, plowing, cornering, beading, mitering, tenoning, panel raising, hand matching, molding rip and crosscut sawing, boring, etc.

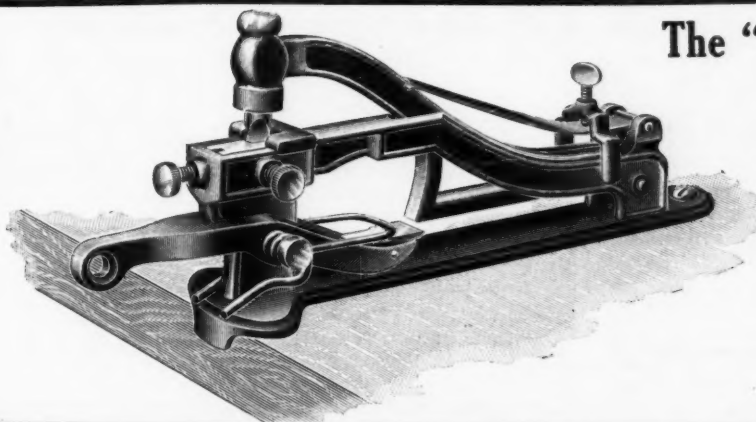


Hamilton Universal Jointer and Saw No. 103.

It is quickly arranged without material change for rip and crosscut sawing, planing, matching, joining, panel raising, tenoning and boring, and a variety of other operations, such as above mentioned, conveniently performed.

See our advertisement on page 147, May issue, and page 277, June issue, of this paper.

For further information and prices, address
THE BENTEL & MARGEDANT CO.
HAMILTON, OHIO.



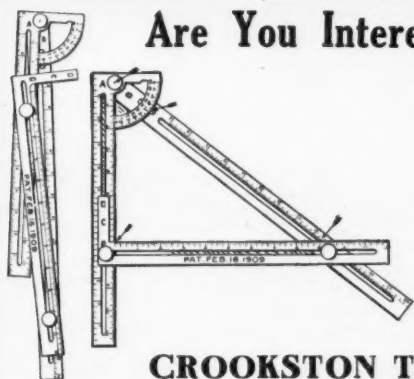
The "Foote" Hammer Saw Set

Operated entirely by foot power, allowing both hands to control the saw, the stroke being absolutely uniform.

The "Foote" Hammer Saw Set is popular and a rapid seller for the reason that it is a pleasure to operate it and every user is delighted with the machine. It weighs three pounds, and is made of the best iron and has steel anvil and hammer.

Write for our special proposition to agents.

The J. B. Foote Foundry Co.,
Specialty Dept. Fredericktown, Ohio.



Are You Interested in Roof, Stairway or Circular Work?

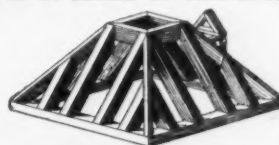
IF YOU ARE YOU NEED THE
ABC PROTRACTOR SQUARE

The ABC Protractor Square is easier to operate than the common square. It does as much and a great deal more. It gives lengths and bevels of common, hip and jack rafters; hopper cuts, polygon and stairway cuts. You cannot make a mistake if you use the ABC Protractor Square. It folds up in a very small compass. None who has work of this kind to do should be without it. Full illustrated directions furnished with each tool and extra ones on request.

PRICE \$3.00

Ask your dealer for it today or send direct to

CROOKSTON TOOL CO., Crookston, Minn.



For Quick Work "YANKEE" Drill No. 44 With Adjustable Spring—Saves Drill Points



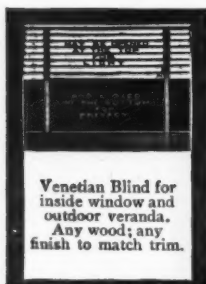
Have you seen all our New Tools?

Get our Tool Book full of new ideas in reliable time and labor-saving tools for all classes of mechanics. Illustrated with photographic reproductions of the tools in use. It's worth having. FREE to mechanics who mention the "American Carpenter and Builder."

Quickly adjusted to the proper tension for hard or soft woods, or the 8 different Drill Points furnished with each tool. No other Drill made has this feature. A very handy and reliable tool. Just the thing for awkward places. Strong and durable. Weighs only 11 oz.

All hardware dealers sell "Yankee" Tools
NORTH BROS. MFG. CO.
PHILADELPHIA, PA.

BURLINGTON



Venetian Blind for inside window and outdoor veranda. Any wood; any finish to match trim.

Venetian and Sliding BLINDS Screens and Screen Doors

Equal 500 miles northward. Perfect privacy with doors and windows open. Darkness and breezes in sleeping rooms. Write for our catalogue, price list and proposition to you.



Sliding Blinds for inside use. Require no pockets. Any wood; any finish.

BURLINGTON VENETIAN BLIND COMPANY
341 Lake Street, Burlington, Vermont

PHOENIX INSIDE SLIDING BLINDS

WILKES BARRE, PA.

The Phoenix Sliding Blind Co. Enclosed find my check for blinds. I am pleased with them and sorry I did not have them put throughout the whole house.
C. W. MILLER.

Comfort!
Economy!
Convenience!

The lately improved springs and corrugated steel rods put the "PHOENIX" far in lead of less improved styles. Write for Catalogue "C" and free samples, showing construction.

PHOENIX SLIDING BLIND CO.
BRIDGE & CANAL STS. PHOENIX, N. Y.

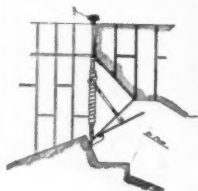
NO MORE FIREPLACE TROUBLES!

No more smoke! No flimsy dampers to get out of order. No uneven heating of room. No soiling of hands or clothing while attempting to regulate draft.



The COLONIAL FIREPLACE HEAD

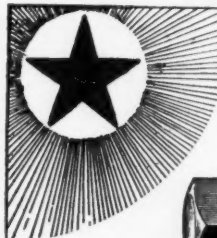
solves the problem of fireplace construction. It insures the greatest amount of heat radiation with the most perfect heat escapement. Draft always under perfect control, and can be instantly regulated from the outside without the slightest possibility of soiling either the clothes or hands.



Perfect combustion of fuel. Most economical fireplace head made. Very easy to set. Saves entire price by saving in cost of erection. Cast in one piece of the best gray iron stove casting. No chance of fire where fireplace facing is joined to the chimney.

WRITE today for free circular giving full and complete description with prices. Don't wait—send now.

COLONIAL FIREPLACE COMPANY
12th Street and 46th Avenue
Dept. 6597 CHICAGO



EXPANSION BOLTS

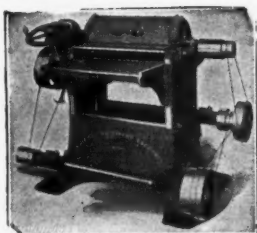


FOR Quick, Labor-Saving Fastenings that HOLD in Brick, Stone and Masonry, Drill hole, place STAR SHIELD within, then put lag screw thro' material to be attached and into STAR SHIELDS and fasten tight. A positive inside lateral expansion insures a fastening PERMANENTLY DEPENDABLE. Catalog, Samples and Prices upon request.

STAR EXPANSION BOLT CO.

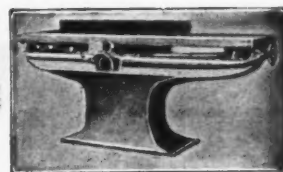
Cor. Cedar and Washington Sts.

New York City



Chicago No. 35 Pony Planer

Machines for Contractors

Chicago Hand Jointer
8, 12 and 16 in.

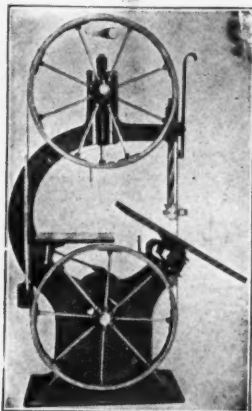
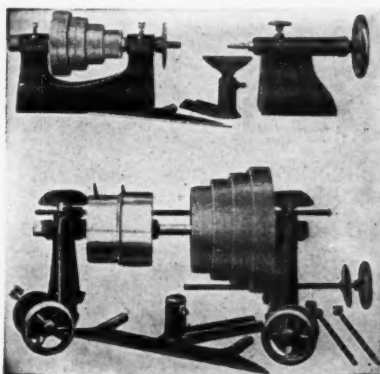
Every carpenter and builder can afford to invest in one, or more, of these machines. From our stock of 500 new and rebuilt machines contractors can obtain sufficient machinery to make them independent of local mills and their attendant delays and high charges.

Stop paying somebody else profit—put it in your own pocket. Be in a position to estimate under competitors. You can do this by installing your own machinery. All our machinery is of special construction to secure fine finished surfaces and to reduce sandpapering to a minimum.

Prices are lower than you think. Send today for our monthly list of rebuilt machines (free to carpenters and builders).

Chicago Machinery Exchange

7-11 No. Canal Street, CHICAGO

Chicago No. 1 Band Saw
27, 32 and 36 in.Wood Turning Lathe and Countershaft
16 and 20 in.Chicago No. 10 Tilting Table
Improved Variety Saw Bench

**Fox
Floor
Scraper
No. 1**

A Perfect
Machine
for
Perfect
Work.

Remember—THE FOX PAYS FOR ITSELF

"Your hardware dealer will order it for you. They all handle the Fox Floor Scraper because it does better work and more of it in less time than any other machine on the market and is conceded by all to be the easiest running machine ever built."



Fox Cabinet Scraper works like a plane. A FINE TOOL for fine work. Price, express prepaid, \$1.25.

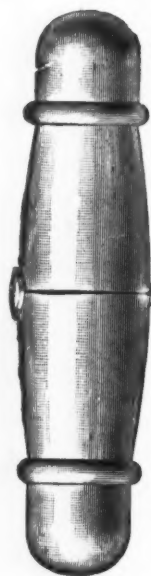
(Write us for Catalogue.)



Fox Cabinet Scraper



Brooklyn, Wis.



Here is a Gimlet

Equal in quality and usefulness to any Brace Bit

HANDLE OF
SELECTED
COCOBOLO
WOOD

THREE SIZES ONLY
Cutting 4-32, 6-32, and 8-32 Holes

Price Postpaid **15 cents** each

H. H. MAYHEW COMPANY

SHELBURNE FALLS, MASS.

GRILLES



COLUMNS AND CONSOLS

In quality and price
our work is not surpassed.

You will make no
mistake in writing us be-
fore ordering elsewhere.

Send for 48-Page
Catalogue No. 15

It contains many fine
designs of modern Grilles
Columns and Consols.

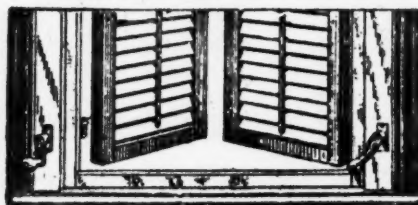


Consol Design No. 1.

Northwestern Grille Works

CHRISTENSEN BROS., Props. 1452 Milwaukee Ave, Chicago

MALLORY'S



Standard
Shutter
Worker

New and im-
proved patterns
and designs.

Opens and closes the blinds without raising the window.
Automatically locks the blinds in any position desired.
Made of gray and malleable iron. The best and most durable blind
hinge. Incomparable for strength, durability and power. Can be ap-
plied to old or new houses of brick, stone or frame. Send for Illustrated
Circular. If your hardware dealer does not keep them send direct to
MALLORY MANUFACTURING CO.

204 Flemington National Bank Building.

FLEMINGTON, N. J.

DON'T PUT SASH WEIGHTS IN YOUR
WINDOWS—THEY ARE OUT OF DATE

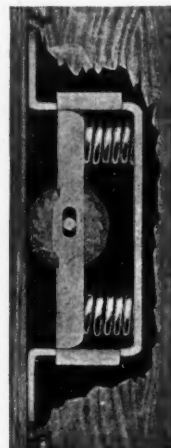
The "AUTOMATIC" SASH HOLDER

The "Automatic" Sash Holder is the new,
modern, up-to-date device that dispenses with
cumbersome sash weights, kinking cords or rib-
bons, useless weight pockets, misfit pulleys and
reluctant balances, and saves all the time, labor
and expense of fitting them in place.

Prevent rattling and permit the window to
be moved up and down with ease. Hold it safely
at any point desired.

A sample set of four sent, postpaid, for \$1.20.
Ask your dealer, or write to us direct.

Automatic Sash Holder Company
277 Broadway, New York City.

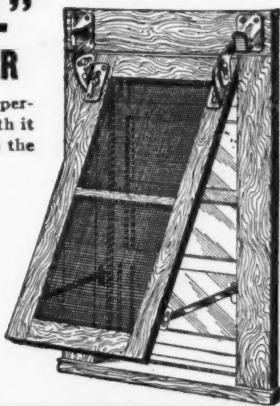


The "UNIVERSAL" ADJUSTABLE HANGER

can be used anywhere. It forms a perfect, practicable lock; sash hung with it cannot be opened or removed from the outside; it cannot be blown open by storms; makes practicable the only substitute for the half-sash sliding screen; is sold in sets, half sets, or in any other way the trade demands; indestructible; will outwear a dozen screens.

Ask your hardware dealer or write for free sample and catalog.

The ADJUSTABLE HANGER CO.
415 Huron St. Toledo, Ohio, U.S.A.



Don't Ask the Dealer for Sash Cord. Ask for

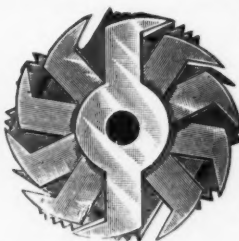
"SILVER LAKE"

and see that he gives it to you. It is impossible to



substitute, as our name is stamped on every foot of cord. Silver Lake Sash Cord is the Original Solid Braided Cotton Sash Cord, and has been the standard since 1868. No other is just as good.

Huther Bros. Patent Groover or Dado Head



Showing Arrangement of Cutters.

of concave ground, smooth cutting circular Mitre Saws, for either rip or cross cut; Grooving Saws for all kinds of special work; Lock Corner Cutters, Concave Saws, etc.

Try our Scraper Blades and you will use no others.

HUTHER BROS. SAW MFG. CO.

1000 University Ave.

Can be used on any Circular Saw Mandrel.

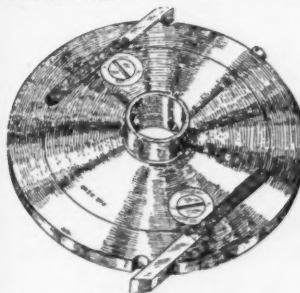
For cutting any width groove from $\frac{1}{4}$ " to 2" or over. Will cut a perfect groove, either with or across the grain, and leave edges smooth. Will ship to any responsible firm on ten days' approval; if not satisfactory you are at liberty to return at our expense. We also make a specialty

ROCHESTER, N. Y.

THE
ROSS
IMPROVED

SASH COPING HEAD

SAVES FOUR OPERATIONS



A great labor saving device in making sash, cutting the straight, bevel, or mould mortise by merely adjusting the bits, entirely eliminates the operation of removing Coping opposite Tenon Mortise, thereby saving moving material from one machine to another. Cuts mortise up to $2\frac{1}{4}$ inches. Saves one-half the time in making sash. Used on top coping mandrel.

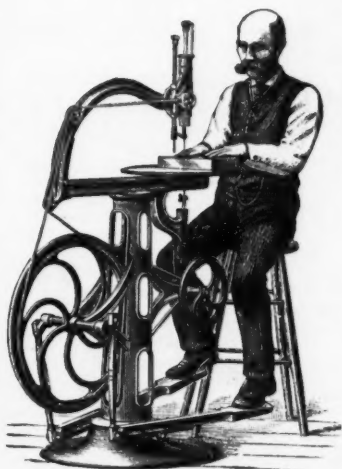
If you are at all interested send for this head at our expense on ten days' trial. It will pay for itself in that length of time. In ordering state size of mandrel.

UNIVERSAL MFG. CO. 310 Nevada Bldg.

Cincinnati, Ohio

"Victor" Scroll-Saw

FOR FOOT AND POWER



Suitable for carpenters, pattern and cabinet-makers and all wood-workers requiring accurate work, also for sawing soft metals. Will cut up to 3 inches thick, swings 24 inches, has powerful tread motion, cuts rapidly and is easy to operate. Has adjustable tension spring on upper spindle, dust blower, drill attachment, iron tilting-table, etc. Will furnish tight and loose pulleys for power in place of treadles when desired.

This is acknowledged to be in all respects the most complete foot-power scroll saw made.

We make a complete line of Foot, Hand and Light Power Wood-Working Machinery, suitable for Carpenters, Builders, Cabinet Makers and other Wood Workers. It will pay you to investigate their merits.

SEND FOR CATALOG A.

THE SENECA FALLS MFG. CO.

218 Water Street,

SENECA FALLS, N. Y., U. S. A.

172

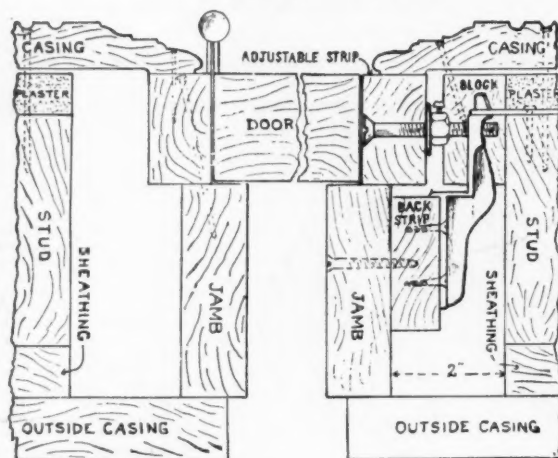
A Swell Head and A Swell Door

are both pretty stiff propositions, but the latter is a mere trifle when you have

The Taylor Door Jamb Adjuster

A few turns of the screws make a perfect fit, whether the door swells or shrinks.

Send for folder explaining this cut.



JAMES L. TAYLOR MFG. CO.,

Bloomfield, N. J.

Carry
A Ton,
Last
A LIFETIME—

A pair of our smallest size

Wall Brackets.

There isn't room here to tell you
how cheap or how convenient they are.

Write for Catalogue and Special Trial Offer.

ARE YOUR CLAMPS GIVING BEST RESULTS?

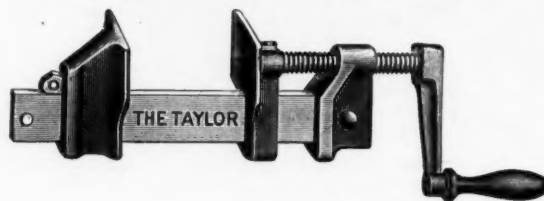
Do you know about our improved gripping device?

It Saves Time;

The special grade of steel we use?

Our Clamps are warranted unbreakable in use.

Catalogue showing 19 styles sent on request.



"OHIO" CHISELS

Are made from a High Grade of Tool Steel,
Skillfully Treated, Correctly Tempered, Accurately Ground.



Every "Ohio" Tool is fully warranted. They have been on the market a great many years and the experienced mechanic who does not care to take any chances on tools of doubtful quality always insists on having "Ohio" Tools from his dealer. He knows them to be good tools, with keen and tough cutting edges.

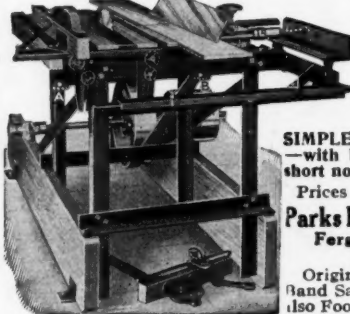


Look for this trade mark when buying Planes, either Iron or Wood, Chisels, Drawing Knives, Auger Bits, Gouges, Spoke Shaves, Bench and Hand Screws, Cabinet Makers' and Manual Training Benches, Etc. Write for our Catalogue No. A, if you are interested in GOOD TOOLS.

OHIO TOOL CO., Columbus, Ohio

PARKS' COMBINATION WOODWORKING MACHINES

Make a Complete and Economical Operating Mill for Carpenters and Contractors
Take our No. 410 for instance—here is a Combination of Three Machines in One—



A Table Circular Saw
A Six-Inch Joiner and Boring or Routing Attachment
Ready for Instant Use
No line shafts and large amount of floor space required.

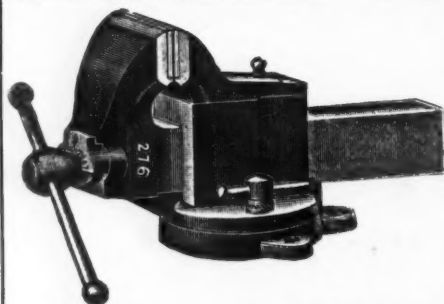
SIMPLE—STRONG and Ready-to-Go
—with little power. We deliver on short notice.

Prices and Catalogue on Request.

Parks Ball Bearing Machine Co.
Fergus and C. H. & D. Ry.,
CINCINNATI, O.

Originators of the Circular Saw, Band Saw and Jointer Combination, also Foot and Hand Power Machines.

PARKER VISES



MADE
ESPECIALLY
FOR WOOD
WORKERS

FOR SALE BY
DEALERS

SEND FOR
CATALOG

CHAS. PARKER CO.
MERIDEN, CONN.

SELF-SETTING PLANE

No plane like it. See this paper for December, pages 261, 320 and 322 for facts and large pictures. This advertisement authorizes any dealer to sell the first SELF-SETTING PLANE in any town on our regular 30 days' trial guarantee.

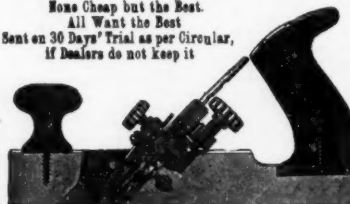
THE BEST IS THE CHEAPEST.

None Cheap but the Best.

All Want the Best

Sent on 30 Days' Trial as per Circular.

If Dealers do not keep it

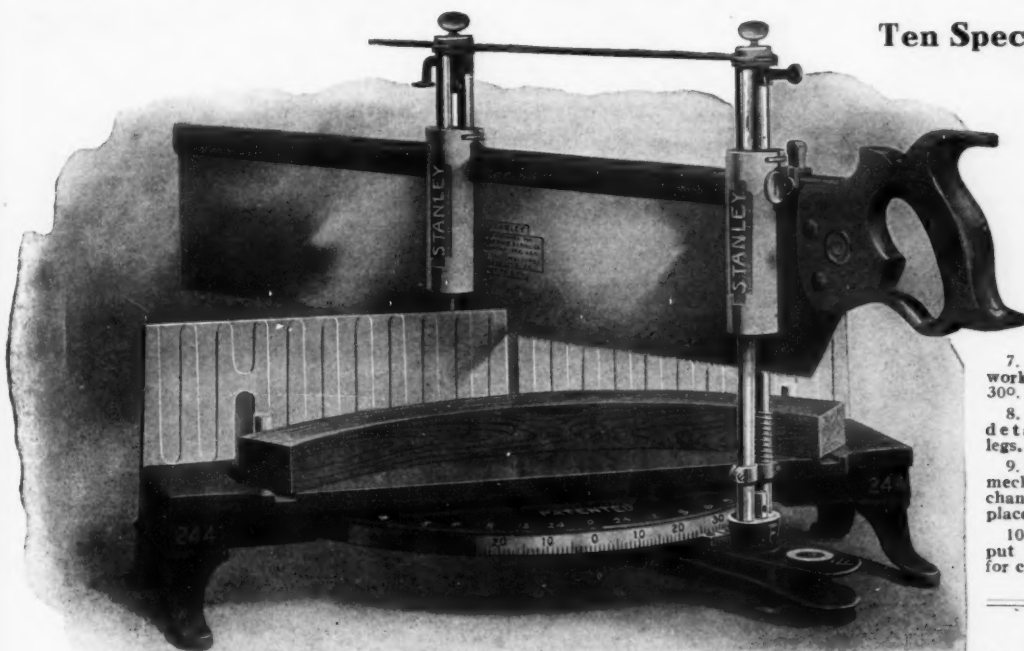


SECTIONAL VIEW—showing ADJUSTABLE IRON THROAT.

Turn you the entire amount you sent us and the trial won't cost you a nickel. This paper guarantees that we will do as our advertisement says. You run no risk. If there is any, we take it. July 1, 1909.

GAGE TOOL CO., Vineland, N. J.

STANLEY MITRE BOXES



Ten Special Features:

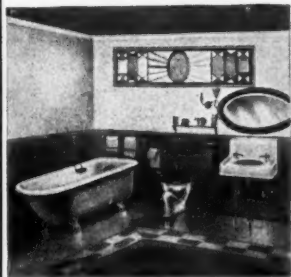
1. Saw is held above work when not in use.
2. Swivel is automatically locked at any angle.
3. Two sockets in swivel for use of long or short saw.
4. Narrow opening in back of frame, especially adapted for small work.
5. Steel rod up-rights for saw guides.
6. Stock guides for holding work in place.
7. Extra wide range of work—will saw at angle of 30°.
8. One-piece frame with detachable malleable iron legs.
9. Construction thoroughly mechanical; all parts interchangeable, and readily replaced if lost.
10. Quickly and easily put together or taken apart for carrying.

Send for our
Catalogue No. 34

STANLEY RULE AND LEVEL CO.

NEW BRITAIN,
CONN., U. S. A.

PLUMBERS' SUPPLIES AT WHOLESALE



When in the market for Plumbing Supplies and you wish to

**SAVE
20 to 40 Per Cent**

on every article, write for my free illustrated Catalog. The only house that sells first class guaranteed goods at wholesale prices direct. Shipments are promptly made from a very complete stock.

Small orders are as carefully handled as large ones.

B. D. KAROL, 233 W. Harrison St., Chicago, Ill.

CUSTOM MADE FLY SCREENS

Our work is far superior to the usual output of local mills and has a style and finish not obtainable from those who do not make a specialty of fine screens.

Our screens have waterproof coped joints and the frames are weather proofed before the finishing coats are applied. Best grades of Wire Cloth, enameled, galvanized, genuine bronze, fastened by the most approved methods.

Intending purchasers may have free, by mail, samples of woods, finishes, wire cloth, and a copy of catalogue and price list. Agencies in nearly all large cities. Agents wanted in smaller cities.

Special terms to Contractors and Builders.

A. J. PHILLIPS & CO.
FENTON, MICH.

25 Years' Experience

3½ Acres of Floors

Your Future Business Hinges

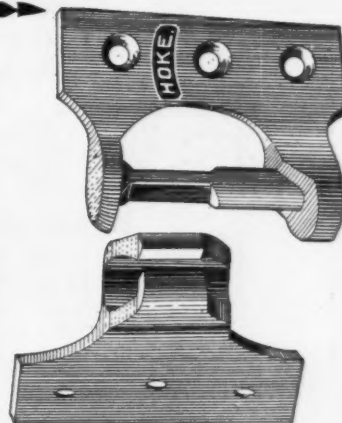
Not on the quantity—but the Quality of the goods you sell. With us it's Quality first—then quantity. We can give you both in the

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They'll meet with instant approval from every carpenter and builder. Easily adjusted. Prevents slamming, banging, or shutters falling off. Can be used on either side of window. Shutters are easily hung, being guided to place by a beveled slot. Let us send you free sample. We feel confident it is the "business builder" you will adopt eventually. Why not now?

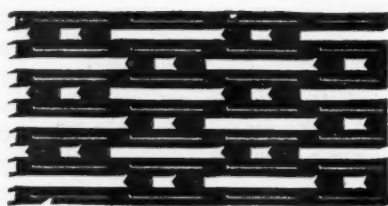
Hanover Hinge Company

HANOVER " " PA



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Coming right down to the economy question Clincher Lath has got everything beaten.

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Sagging between the studding is rendered absolutely impossible if Clincher Lath is used. Read what progressive carpenters have to say about it.

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A substitute for Lath and Plaster.
Can be put on by any Carpenter.
It is Warmer, more Durable,
Quicker and more Easily Applied.
Manufactured all 4 ft. wide, 8, 9, 10,
11, 12, 13, 14, 15, 16, 17 and 18 ft. long.

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Be sure that the cord you buy has SAMSON AND THE LION on the label, and that the braid is marked with the COLORED SPOT. You may be sure you'll get the best.

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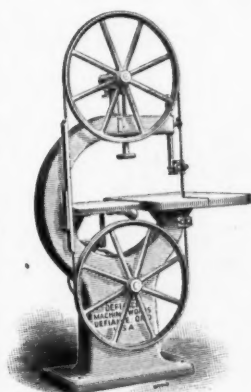
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Invented and Built By

The Defiance Machine Works
Defiance, Ohio

For Manufacturing General Wood-Work

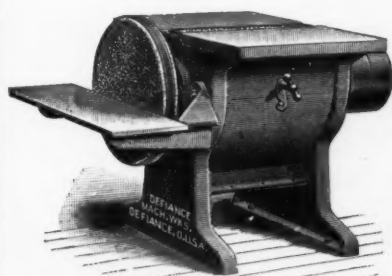
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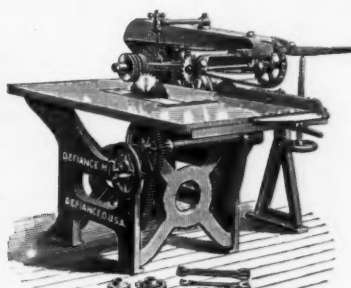
28" Band Saw



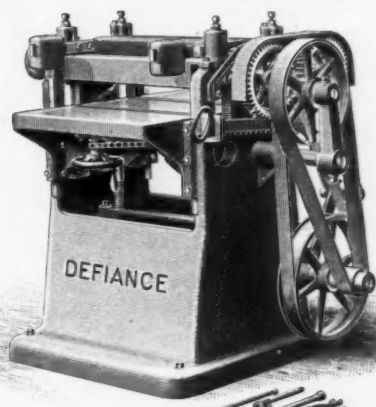
12" Hand Feed Planer
with or without Boring Attachment



Drum and Disc Sander



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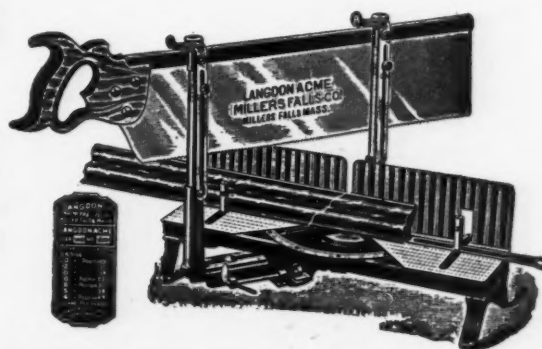
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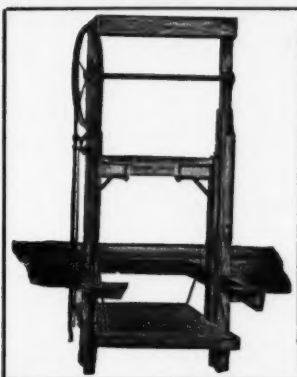
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No. 115
GOODELL-PRATT'S

This is a "Classy" little machine. No carpenter can afford to be without one; there is nothing like it for grinding tools.

It has CUT GEARS, no noisy, loose fitting cast teeth on this; and each machine is BUILT UP and its different parts fitted to each other.

Also it is equipped with the BEST GRINDING WHEEL that we can buy.

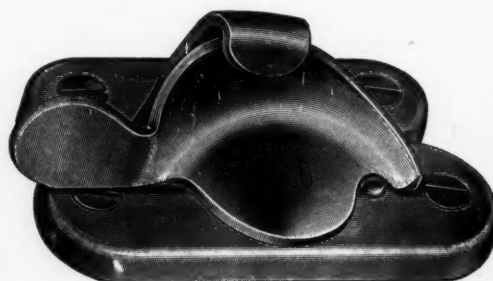
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Greenfield, Mass., U. S. A.

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NEVER BREAK

BECAUSE THEY ARE MADE OF VERY HEAVY GAUGE METAL AND PERFECTLY CONSTRUCTED

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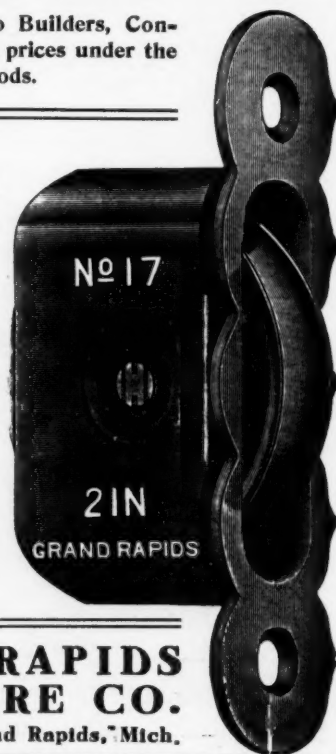
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Are sold DIRECT to Builders, Contractors and Mills at prices under the common ordinary goods.

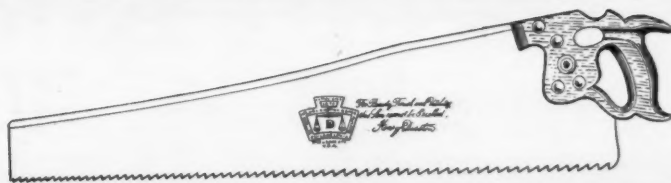
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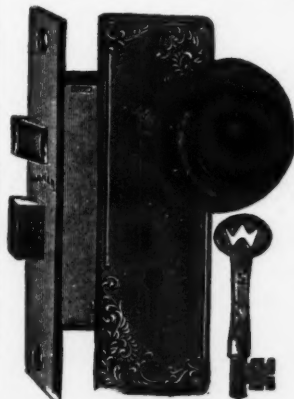
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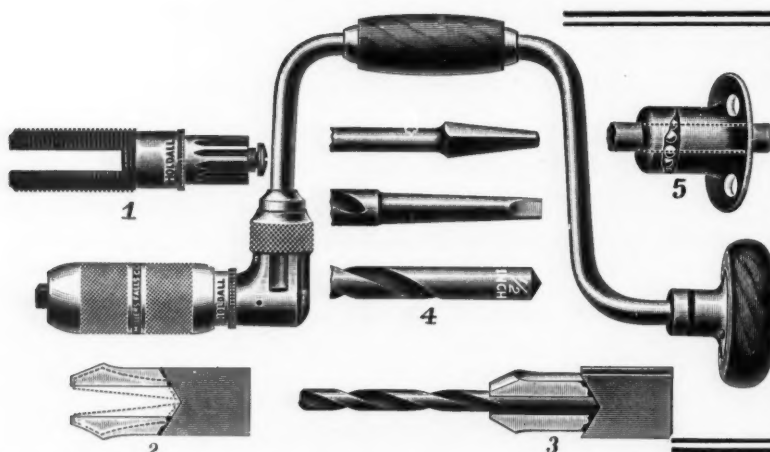
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No trouble to handle, because it weighs only about two pounds. Can be used with gloves or mittens on and in any season.

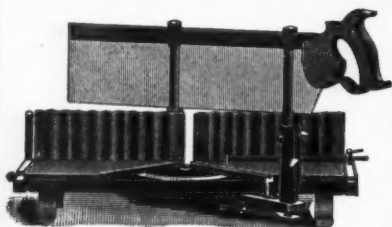
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Start saving money by making the Pearson Nailer part of your equipment. Your dealer has them; if not send to us. Complete information for a postal.

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Automatic Stops for holding up saw.
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The Purest of Quality Our
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We have had a Chemist experimenting for years to originate a purity of steel with a fine grain and tough body that would stand up under such a fearless warranty as we place on our "GREYHOUND" brand of saws. We now have it. We know its worth as well as its value. As workers of steel we understand it. We had to name it and we have christened it Bishop's Refined "GREYHOUND" Steel, associating our trade mark with its name. We have in this "GREYHOUND" Saw blade a purity of steel that is tough, tempers accurately and even—together with the special way it is made—enables us to guarantee that this "GREYHOUND" brand of Saws will cut faster and run easier in all kinds of wood, hold its sharpness and set longer than any other makes of good Saws in the world. We Refund the Money if 30 days' trial does not prove our guarantee. Our pride is quality with an honest opportunity for the purchaser to judge. Each Saw is tagged with our warranty on it. No expense has been spared to make this Saw the most perfect in the world. We invite correspondence with anyone who has our "GREYHOUND" brand of saws in use.

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Cut
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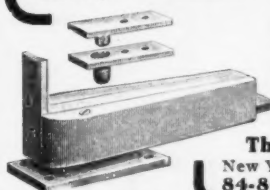


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Floor Hinge

The Shelby



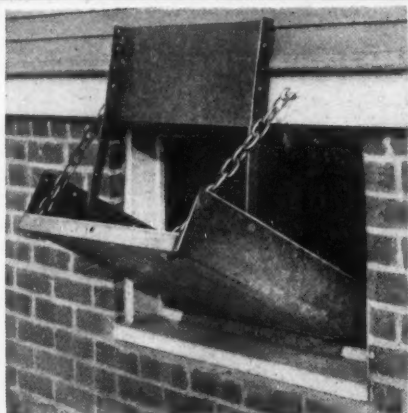
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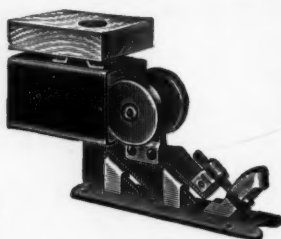
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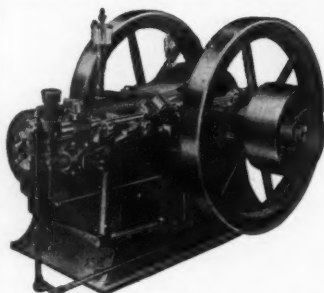
for elevating and carrying stone, cement, gravel and other materials. Can be used with overhead track or cable in connection with carrier such as we make together with suitable conveyors for handling the material in bulk. This hoist will meet the requirements of contractors and others who desire to quickly elevate and carry back material as above described. The hoist elevates the load to a point above the supply, from which point it is moved by a carrier running on overhead track. The return rope, or tag line which operates on the upper drum will return the carrier to the supply for another load. The hoist consists of two drums mounted on shafting, and propelled by gasoline engine, applied to the pulley at the outer end of the frame, the large drum carrying the hoisting rope and the small drum the tag or return rope. Larger drum is fitted with automatic brakes so that the machine is under control of the operator at all times.



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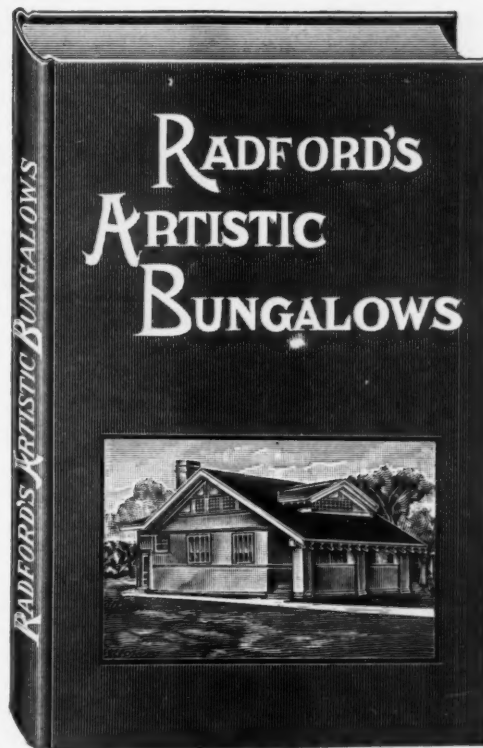
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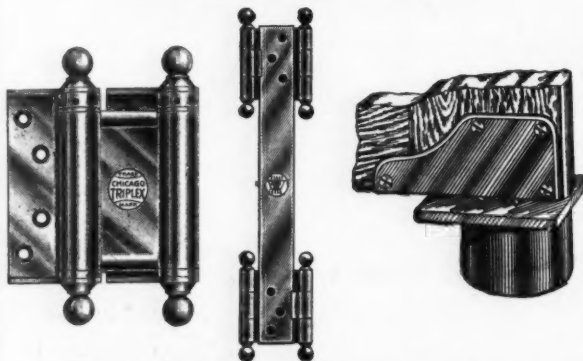
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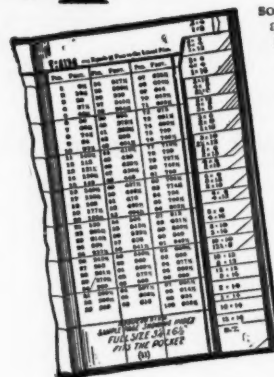
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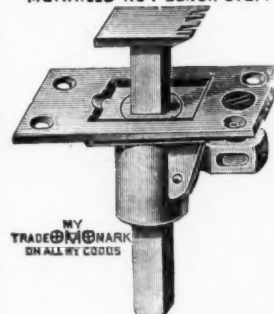
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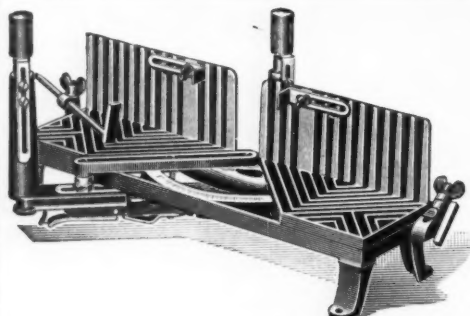
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American Carpenter and Builder

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SUBSCRIPTION RATES

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ADVERTISING RATES

Furnished on application. The value of the AMERICAN CARPENTER AND BUILDER as an advertising medium is unquestioned. The character of the advertisements now in its columns, and the number of them, tell the whole story. Circulation considered, it is the cheapest trade journal in the United States to advertise in. Advertisements, to insure insertion in the issue of any month, should reach this office not later than the 20th of the month preceding.

IF YOUR competitor talks about you put him on your pay roll. Never mind what he says, so long as he TALKS.

**Encourage Better Home Building**

IN CONNECTION with home building there is a way in which carpenters and builders can render lasting service to the community in which they live and, at the same time, do themselves a good turn. This is in the proper use at all times of their influence and advice.

Encourage *better* building.

Every man is at heart a home-builder. This may not be apparent in all cases; but sooner or later the "home hunger" comes and with it a growing discontent of forever paying rent and forever drifting from one living place to another.

Now the average man knows very little definitely about building, either in regard to construction, finish or equipment. His notions concerning the reasonable cost of building are extremely hazy. So when the home-building fever strikes he is sorely in need of professional advice.

The local carpenter and builder is the logical one to go to then. He is or should be—the expert on all matters pertaining to home building; and his advice, based on knowledge and experience, is certain to have weight.

To the question, "What is good advice?" there can be but one answer. Encourage *better* building. Most men build but once; make it plain that a good, substantial, *permanent* structure is the only economical one. Home building surely justifies running in debt if that is necessary to construct and finish the house in a substantial, satisfactory way. The slight extra investment required being the difference in cost between the house that is "skimped" and the same house properly built, is the biggest paying investment a man can ever make. It represents the difference between the house that will be a ramshackle inside a dozen years and an eyesore to the neighborhood and the well-built home, always snug and comfortable and with each succeeding year gathering around itself new charms.

And not only should good advice recommend substantial construction, but also the incorporation into the building scheme of all the modern conveniences. These conveniences of heating, plumbing, water supply, etc., cause an ever-growing satisfaction in the new home that is present long after the added cost has been forgotten.

The carpenter and builder should keep posted on all these matters and should welcome every chance to use his knowledge and influence. It will result in increased business for the builders and, for the owners, increased satisfaction.

Architect Must Be a Good Guesser

IT IS positively appalling to consider the weight of responsibility put upon the architect by the public in the matter of guessing. A client comes to an architect with the request to design for him a house that shall contain so many rooms, of such and such sizes, and with an equipment and finish that shall be thus and so. In the course of time the design reaches its preliminary stage of completion, where all requirements have been met, the plan is satisfactory, and the details of heating, plumbing, lighting and finish are roughly determined. Then comes the demand upon the architect's guessing power; the owner wants to know just how much it all will cost. In a case at hand the architect had applied the usual rules of thumb, estimating the building's cubical contents, multiplied it by a cost price per cubic foot obtained in previous experience with the same kind of work, and registered his "guess" as \$12,000. The work went ahead; the working drawings, scale details and specifications were made and put out for bids. And here comes the real point: With all the data before them, with rigid specifications and full details, the eight contractors submitted bids ranging from about \$11,000 to \$16,000. There is no moral; the point we want to make is that accurate guessing is an attribute of the practising architect that is occasionally overlooked. Among the almost innumerable branches of knowledge in which he is called upon to be fully equipped, from the theory of acoustics to the extermination of red ants, dependable guesswork occupies an important place.

More Pay

WE ARE all down on the time book for \$8.00 per day, but one reason why some receive less in their pay envelopes is because the cash is held back to pay someone else for looking after them, laying out the work, and holding them to their tasks. I know lots of men who pay \$7.00 per day for supervision. The less supervision the more pay; the more supervision the less pay.—*Fra Elbertus.*

The Useful Public Library

WORKMEN all over the country are beginning to realize more and more the value of public libraries in their daily work. Many of the large libraries have special departments in which books on practical trades and industries are kept for reference and borrowing use. In New York, Newark, Providence, Washington, Brooklyn, Cleveland and Dayton, special departments are in operation where hundreds of workmen go regularly to study on their trade. These offer practical attractions for ambitious men. Many persons who have not had a thorough education and cannot spare the time for a night school course, and who are unable even to give the time and money for a correspondence school course and the books which the course requires, are here provided with pleasant

rooms where other men are reading and studying, and where books and magazines are all around them. An ambitious man may go to one of these libraries, or indeed to most any library, and carry on a course of practical study beginning with elementary books and extending on through practical and advanced works. The number of men who borrow books from public libraries is steadily increasing and those who have hitherto avoided the library as a place of fiction readers are now being attracted to it in great numbers.

Wood Waste Decreasing

THE waste wood heap continues to diminish and pass away.

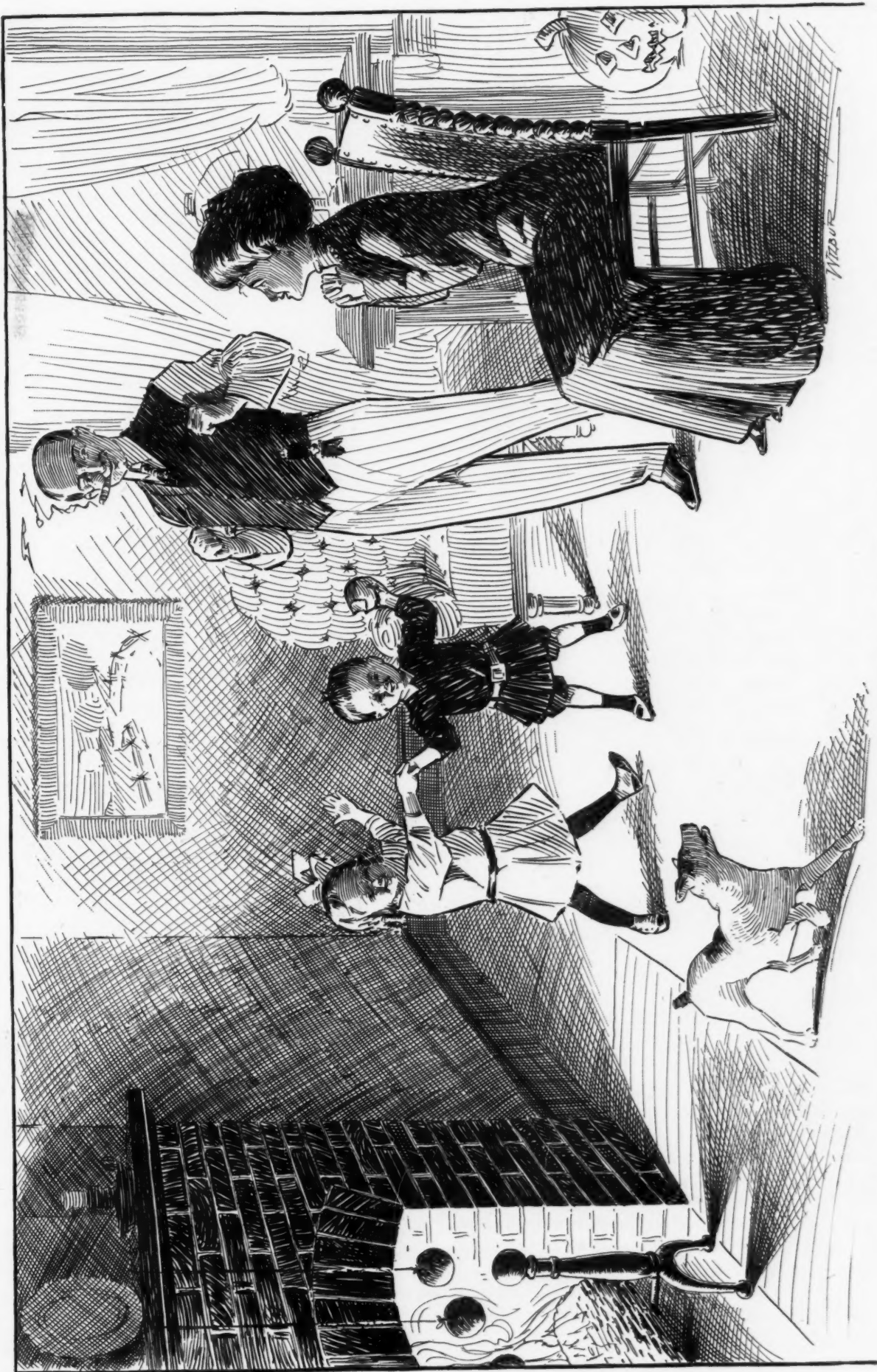
A Massachusetts manufacturer of brushes recently made a discovery in Maine which supplied him with material exactly suited to his purpose. He went to the Pine Tree State to buy wood for the backs of his brushes and the handles of shaving brushes, and chanced to visit the yards of a spool maker who was using white birch. The spool man took the white part of the wood only and was throwing away the red hearts. Thousands of cords had been burned or dumped in the lake to be rid of it.

The red hearts were exactly what the brush maker wanted, and at little more than the expense of freight he supplied his factory.

This is typical of the trend of manufacturing. Waste of wood is still great, but it is decreasing. What one factory can not use, another turns to profit. Formerly mills threw away half the forest-tops left in the woods, sawdust dumped in streams to pollute them and destroy fish, slabs burned in perpetual bonfires, and defective logs and low-grade lumber abandoned as not worth moving.

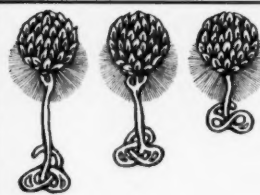
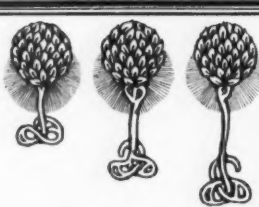
This policy does not generally prevail now. Some mills have put in machinery to work up their own by-products, others sell their waste to manufacturers who can use it, as in the case cited in Maine. The properties and uses of woods are now subjects of careful investigation, and the problem of turning to account the odds and ends and the by-products is brought more to the front now than formerly.

The United States Forest Service has taken up this study in a comprehensive and systematic way. Investigation of the woods of particular states are being conducted, usually in co-operation with the states concerned. The plan, when fully carried out, will include every commercial wood in the United States, not fewer than 200 species. The properties of each will be investigated, such as its hardness, toughness, elasticity, durability, weight, fuel value, size of tree, regions where grown, the common name by which it is known in different localities, and other matters of this kind. A history of the wood's uses in the past will be given, and an account of present uses, together with suggestions for a wider range of usefulness in the future by pointing out in what capacities it will serve best and be the most valuable.



Well, Here We Are in Our New Home!

TYPICAL AMERICAN HOMES



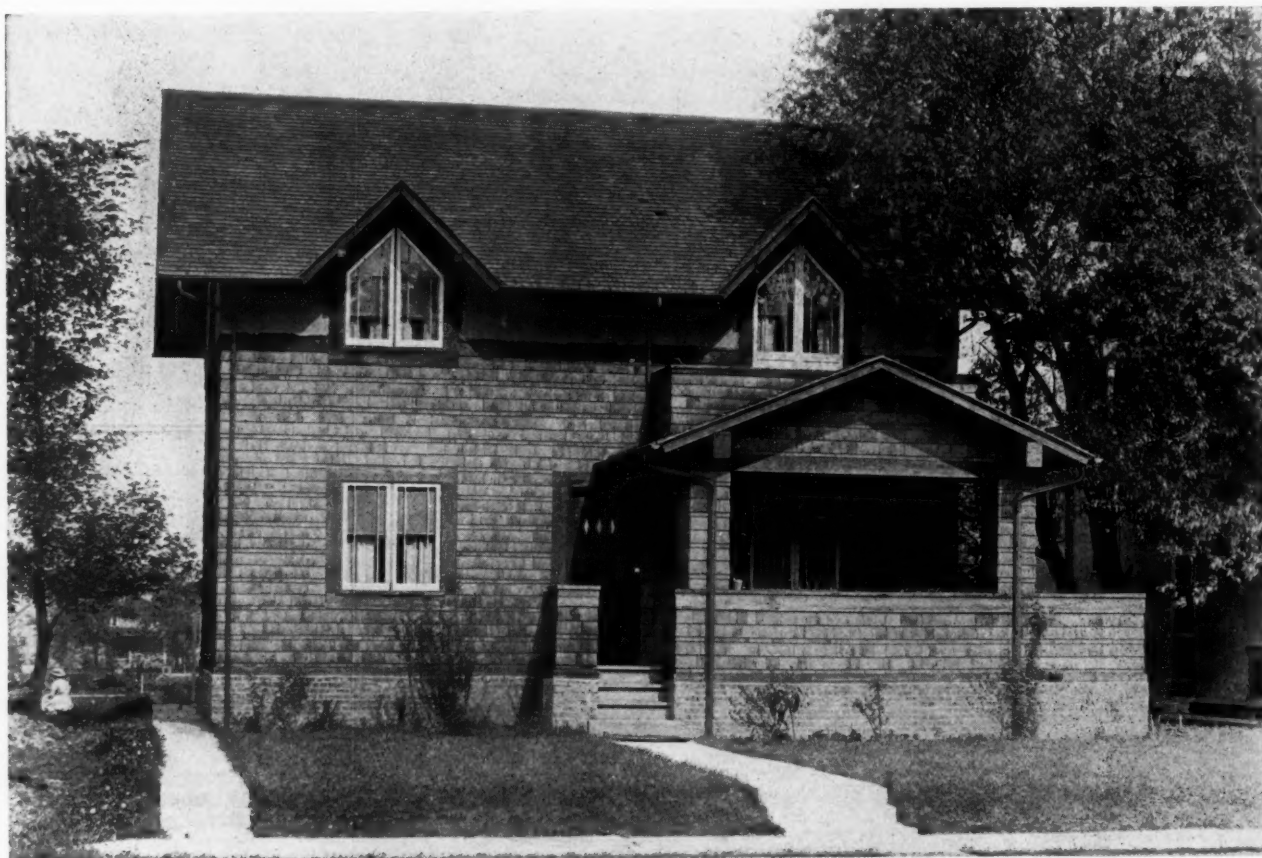
WE HAVE been of the opinion now for some time that home-building architecture—the planning and design of our typical American homes—has experienced, generally, a decided change for the better during recent years.

In traveling through the different parts of the country, taking note of things structural, it has seemed that there is less than formerly of the bleak, box-like sort of temporary looking houses that once were so

based on observation and on the published reports of the season's building activity.

So for this "Home Builders" number, it has been a pleasure, in looking over the photos and the plans sent in to us by our readers, the building contractors, and by our architectural friends, to find that their work this year has also been of this improved type.

We take pleasure in presenting some of these designs for your consideration. They are not the most expensive ones we could have chosen, nor are they



Quaint "Arts and Crafts" Home. Costing Complete \$3,978. Residence of E. M. Davis, Oak Park, Ill.

common. Perhaps they have, most of them, tumbled down, or have been pulled down to make place for worthier dwellings. At any rate the general impression now is not of them. The typical American home has come now to be a well-planned, well-designed structure, snug and substantially built.

We were—to repeat—of this impression generally,

all the most *unique* designs. But they were picked out as being fairly representative of the work being done this year by the readers of the AMERICAN CARPENTER AND BUILDER; moreover, we have the testimony of their owners that each of these designs has proved a practical and satisfactory home.

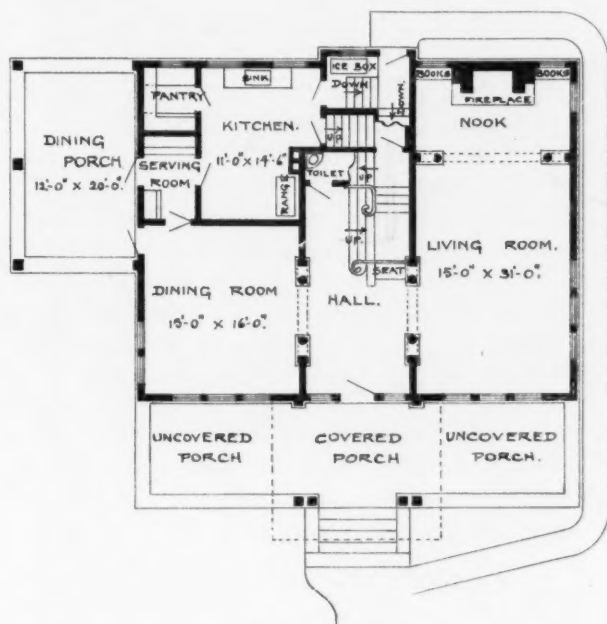
This last feature is important for it is to be frankly



House at Wilmette, Ill., Costing \$8,000. Interior Finish, White Enamel and Birch Stained Mahogany; Oak Floors; Tile Bathroom. Edgar O. Blake, Evanston, Ill., Architect

admitted that not every design which looks fine and attractive, and desirable—*on paper*, in the plans—turns out to be a thoroughly practicable and livable house when it is built! The skilled architects are usually well aware of this and are able to provide against it. But it is a matter that needs to be care-

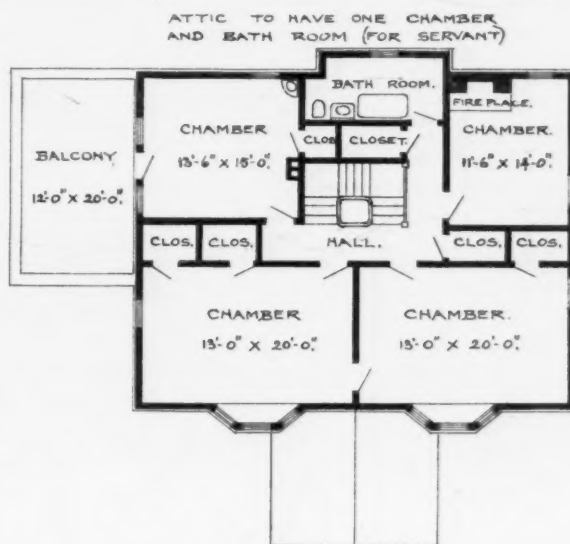
pective home-builder can get a very definite and clear idea from the photographs just what the different styles are, and how they might be adapted to his particular building site. The floor plans show the size and arrangement of all the rooms; and these arrangements have been tested for their practicability and



First Floor Plan

fully watched, especially by inexperienced designers.

Now with houses that are already built, any uncertainty or doubt of this kind is removed. This is the chief value of a collection such as this; the pros-



Second Floor Plan

convenience and have not been found wanting.

With most of these designs we have been able to give the actual cost to build. In the majority of cases this cost has been for the residence completely finished and equipped with all modern conveniences, such as basement heating plant, combination light fixtures, high grade plumbing, etc. It is evident that

the people, generally, have come to the conclusion that it pays to build and to build well. When a man is making an investment in a home—and where is there a better investment he can make—his desire urges him to have in it everything that will add to its comfort

our showing all the houses sent us. To have done so it would have been necessary to reduce all the pictures to such a small size as to make them of little value. Accordingly it was thought best to make a selection of the most successful and representative designs and



Charming Home of J. H. Pope at Hamilton, Mass. Cost \$4,000. W. H. Hunt and Co., Boston, Architects

and convenience. This is well, for it makes the new home permanently satisfactory; and the added expense is seldom very great.

Home-builders will do well to remember this, both those who build and those who are built for. Very

show them in large size, with the floor plans attached.

Others will be published in next month's magazine.

The Designs in Detail

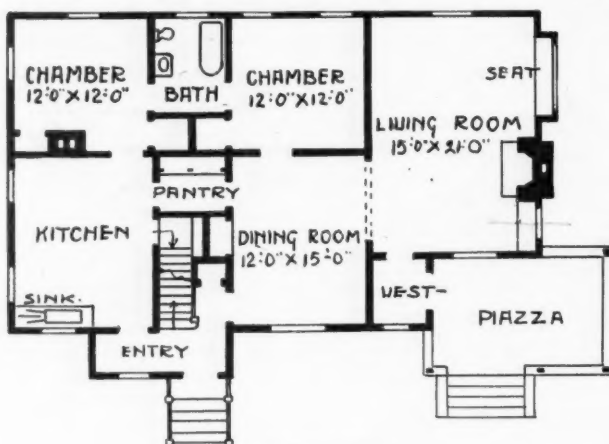
Now, taking up the different designs in detail, there are special features connected with each that are deserving of attention and study.

The first house, page 32, is a 7-room house of very quaint and artistic appearance. It is presented here mainly to show the unusual shingle siding effect. There are two courses of shingles, 4 inches to the weather, and then one course, 1 inch to the weather. These alternate in this way from the brick foundation up to the second story windows, where a cement plaster finish begins.

A delightful home done in cement plaster is shown on page 33. The floor plan is especially good. It is of the "central hall" type with extra large living-room. There are four bedrooms. The dining porch with its second story balcony is a special feature.

Bungalow with Interior Views

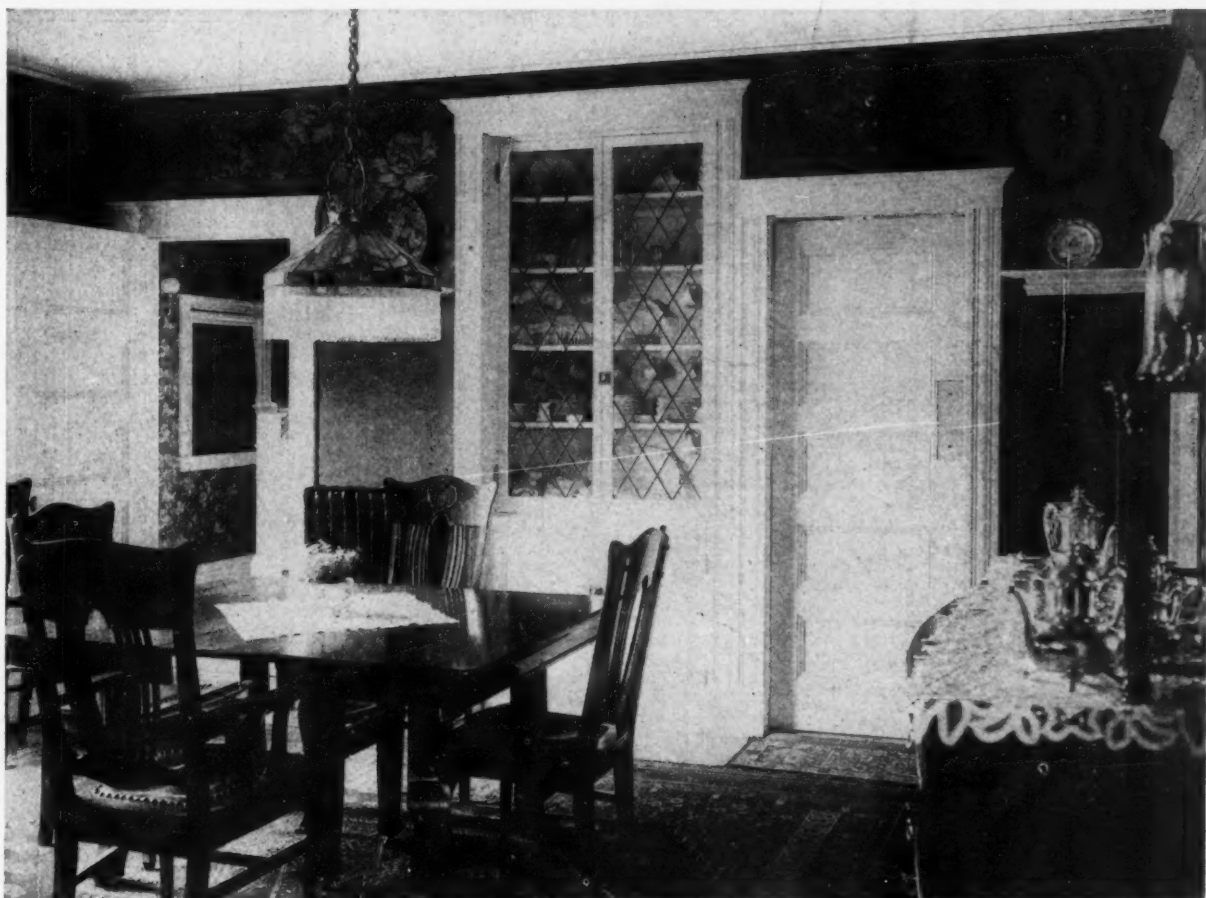
The attractive shingled exterior and the convenient floor plan of Mr. J. H. Pope's bungalow home at Hamilton, Mass., shown on page 34, are worthy of study; but we would call particular attention to the superb interior views shown opposite. The mantle and book-case arrangement is especially neat, and harmonizes



Main Floor Plan

often a little persuasion on the one hand and a little forethought and daring on the other will cause the new house to be equipped with all modern conveniences, to the permanent satisfaction of the owner.

Our only regret in connection with this "Home Builder's" number is that lack of space has prevented



The Living and Dining Rooms, J. H. Pope's House at Hamilton, Mass.



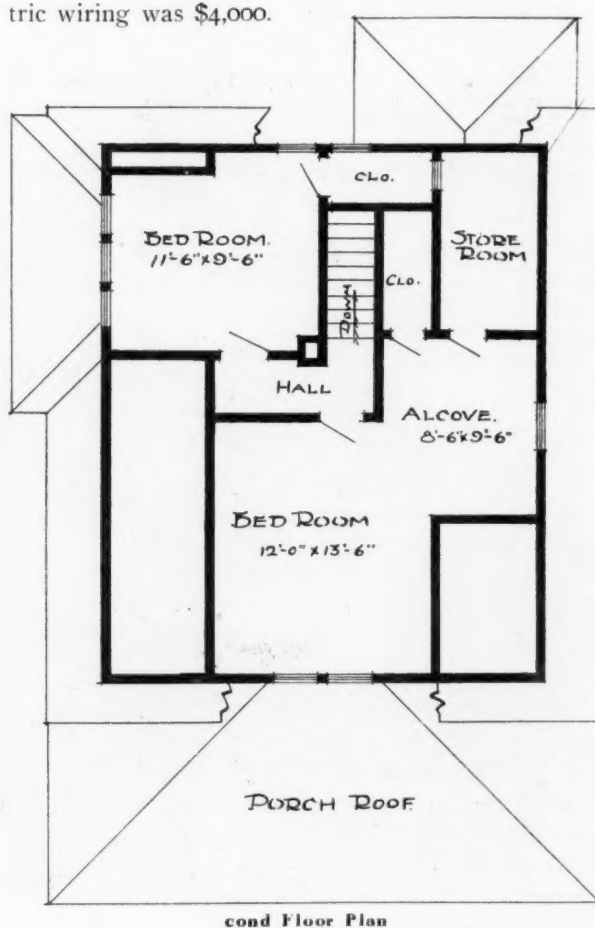
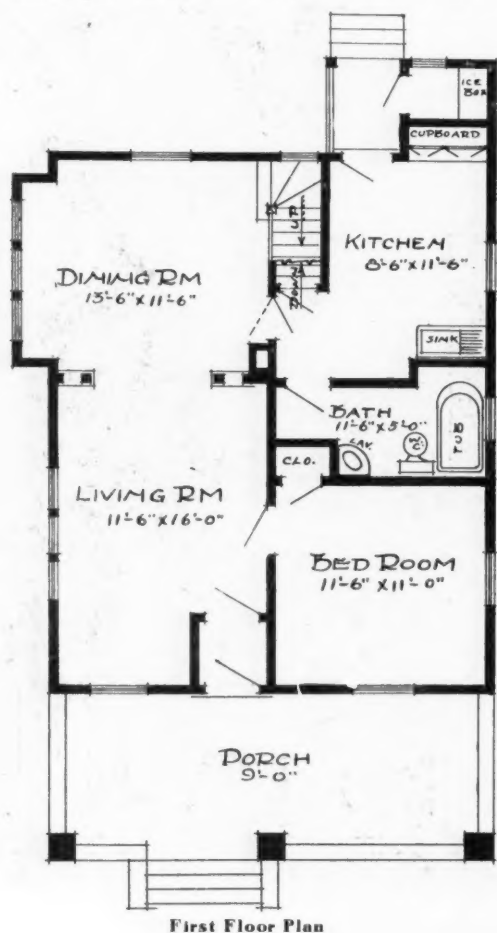
Artistic Bungalow Built for Chas. H. Poore, at Omaha, Neb. Cost, \$2,800

well with the cozy window and seat arrangement. The wall paper is a pretty tropical design, in tones of green and yellow. The interior trim is soft wood with a white enamel finish.

This house was built on a foundation of rough field stone, picked up on the premises. A great out-

side chimney built partly of field stone and partly of brick is a feature. The exterior finish is of shingles, stained a reddish brown, with trim painted white.

The roof shingles are left untinted. The cost of this house using only the best of materials and construction and including steam heating plant and electric wiring was \$4,000.



Another bungalow, this one of the popular western style, is shown on page 36. The total cost with yellow pine trim and oak floors was \$2,800, constructed in Omaha, Neb.

Gambrel Roof House

The attractive little home shown on page 39 is one of thirty-five well built residences put up this season by Martin P. Huyck, to be sold to the workmen in the locomotive shops at Battle Creek, Mich. The construction work was done by the Brownell Park Construction Company. This 7-room house cost \$2,400.

One of the most practical and attractive of the homes in this collection is that shown on page 38.

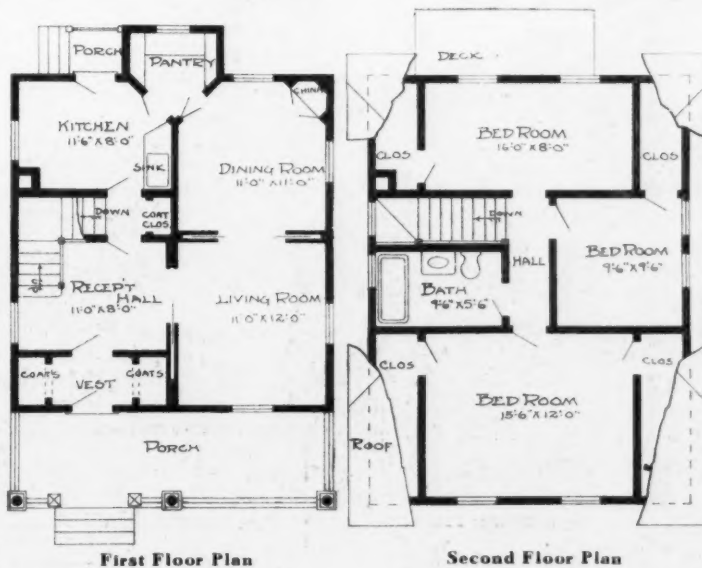
The interior of this house is finished as follows: The reception hall, living-room and dining-room are finished in quarter-sawed oak stained with old English oak stain and varnished with the last coat rubbed to a dull finish. The floors in the above rooms are laid with $\frac{3}{8}$ by $2\frac{1}{4}$ inch quarter-sawed white oak flooring

finished in wax. The second story rooms are finished in Georgia pine, stained mahogany in the two front chambers, forest green in the left hand rear chamber and golden oak in the right hand rear chamber.

The woodwork in the bathroom is finished in white enamel. The floor in the bathroom is laid with vitrified tile. Floors in chambers, etc., are laid with quarter-sawed Georgia pine flooring. The kitchen and pantry are finished in Georgia pine filled and varnished in the natural color of the wood. The walls and ceilings of the

rooms are plastered with Imperial patent mortar with the last coat in sand finish for tinting. The house is heated with a hot-water system composed of cast-iron boiler and a cast-iron radiation. Has a complete system of plumbing, including high-grade white enamel fixtures. The rooms throughout are lighted with combination gas and electric fixtures.

The relative costs of the various items were as follows, constructed at Kewanee, Ill.:



Satisfactory House Built for Martin P. Huyck at Battle Creek, Mich., by the Brownell Park Construction Co. Cost \$2,400



Residence of H. R. Walton, Kewanee, Ill. Finished in Quarter Sawed Oak with Georgia Pine up Stairs; Combination Fixtures; Hot Water Heat; Cost Complete, \$4,400. Henry Eckland, Architect

Brick work	\$ 700.00
Plastering	270.00
Carpentry	2,265.00
Painting	250.00

Hardware	175.00
Heating	350.00
Plumbing	295.00
Lighting	95.00

\$4,400.00



FIRST FLOOR PLAN



SECOND FLOOR PLAN

On page 39 is given photograph and floor plan of a very satisfactory bungalow design. It contains six rooms, bath and dining porch. It has been erected at Glencoe, Ill., at a total cost of \$4,000. Edgar O. Blake, of Evanston, Ill., was the architect.

[Sea-Shore Cottage with Interiors

A seaside home in the typical eastern style is shown on pages 40 and 41. The interiors present a delightful picture of comfort and homelike cosiness. The finish is a

very successful modern adaption of the Colonial.

The photograph and floor plans of a very cosy and comfortable Oregon house are shown on page 42; on the next page are two views of the interior. In the large picture to the right are to be seen Mr. and Mrs. F. C. House, the owners, and to the left stand C. H. Beltz, the building contractor, and his wife.

This house is all finished with select Douglas fir, scraped and sanded, then stained in Mission and wiped with felt to bring out the grain. This makes an elegant finish. The total cost of this house was about \$2,500 at the prices of lumber and labor given below:

All kinds of dimension at average, per M.	\$15.00
Flooring, per M.	37.00
Siding, per M.	20.00
Shingles, per M.	2.50
Lath and plastering, per yard.	.32
Brick, per M.	11.00
Cement, per barrel.	4.00
Labor—painters and carpenters, for 9 hours.	3.50
Electric wiring cost.	25.00
Brickmasons, per 8 hours.	6.00
Hardware cost	98.00

Cottage Design

On page 43 a very pleasing little 6-room cottage is shown in photo and floor plan. This is the residence of Wm. Wolf, railway engineer, at Flora, Ill. It was designed and built by Frank S. Nichols, Flora, Ill. The cost complete was \$2,000.

A very substantially built little house is shown on page 44. This is one of those very practical designs that are always so popular. It was designed and built

by Thos. H. Hulbert in Oak Park, Ill., at a cost of \$2,825.

An English Design

A perspective drawing with floor plans of an artistic



MAIN FLOOR PLAN
BUNGALOW AT GLENCOE, ILL.



Six-Room Bungalow at Glencoe, Ill. Finished in Yellow Pine, Mission Stained; Hot Air Furnace; Cost Complete, \$4,000
Edgar O. Blake, Evanston, Ill., Architect

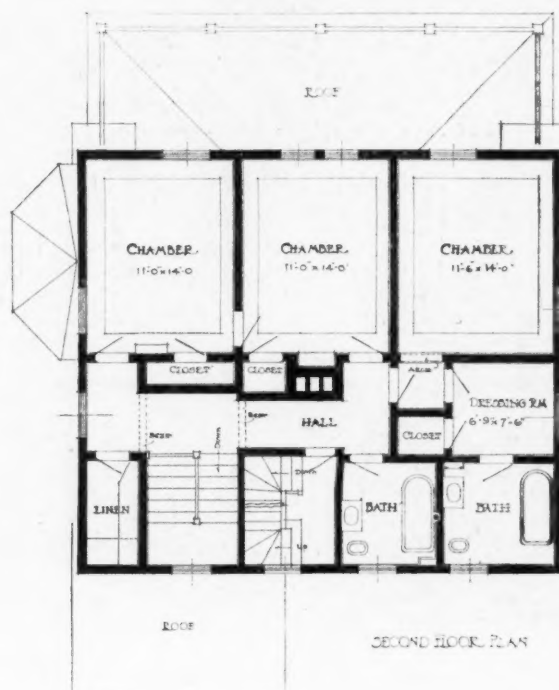
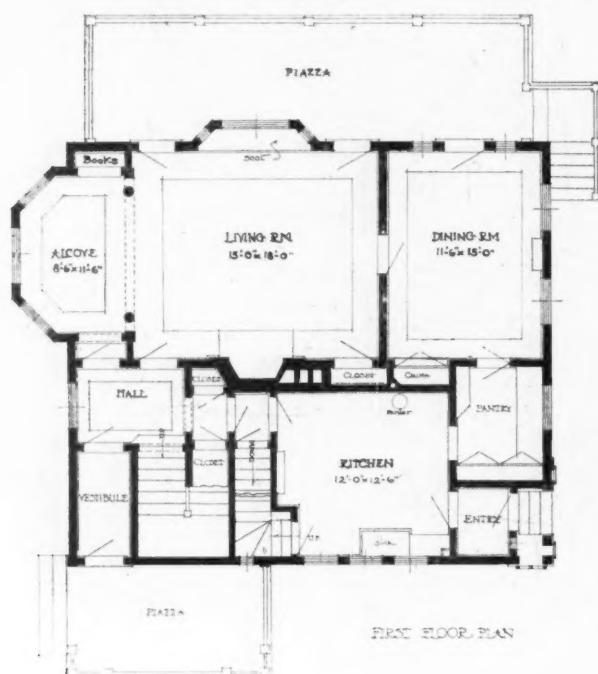


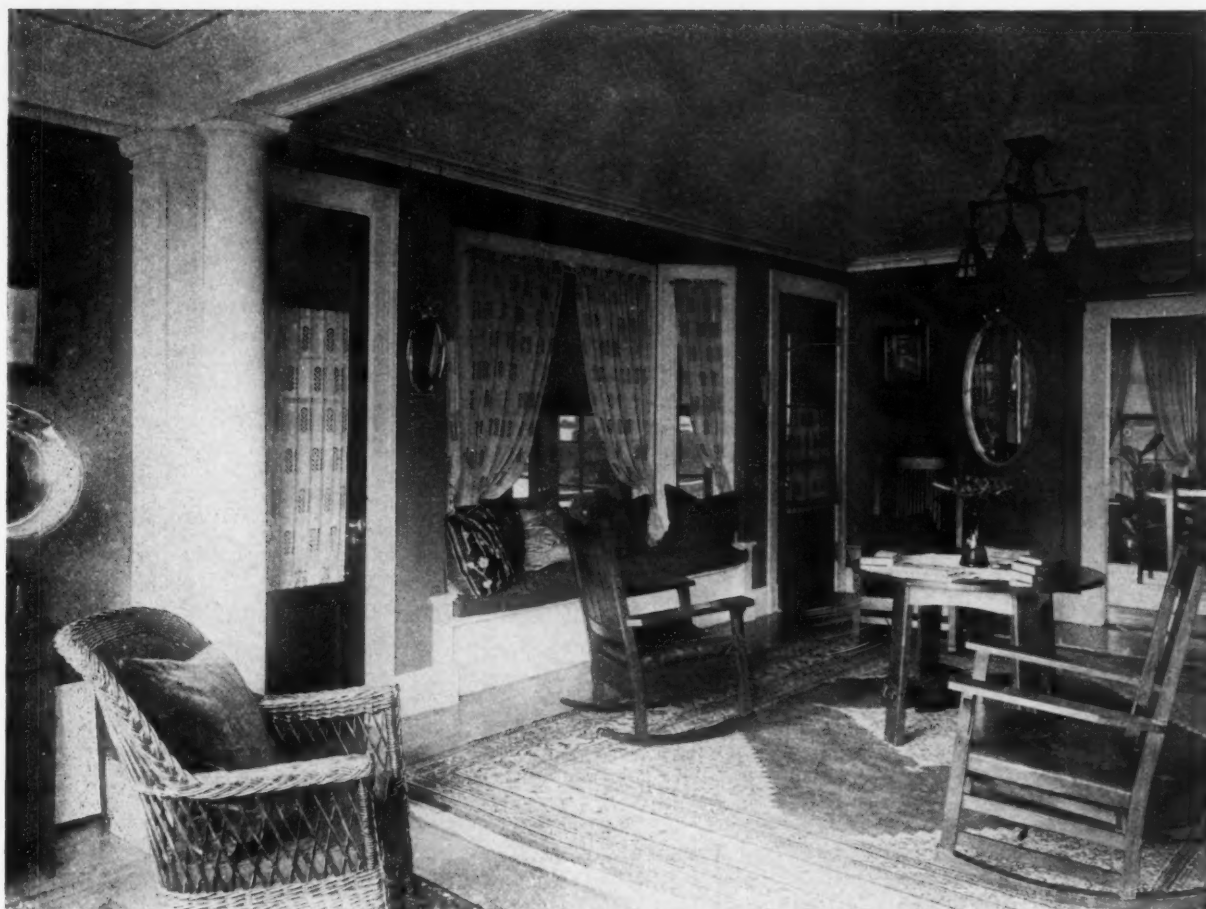
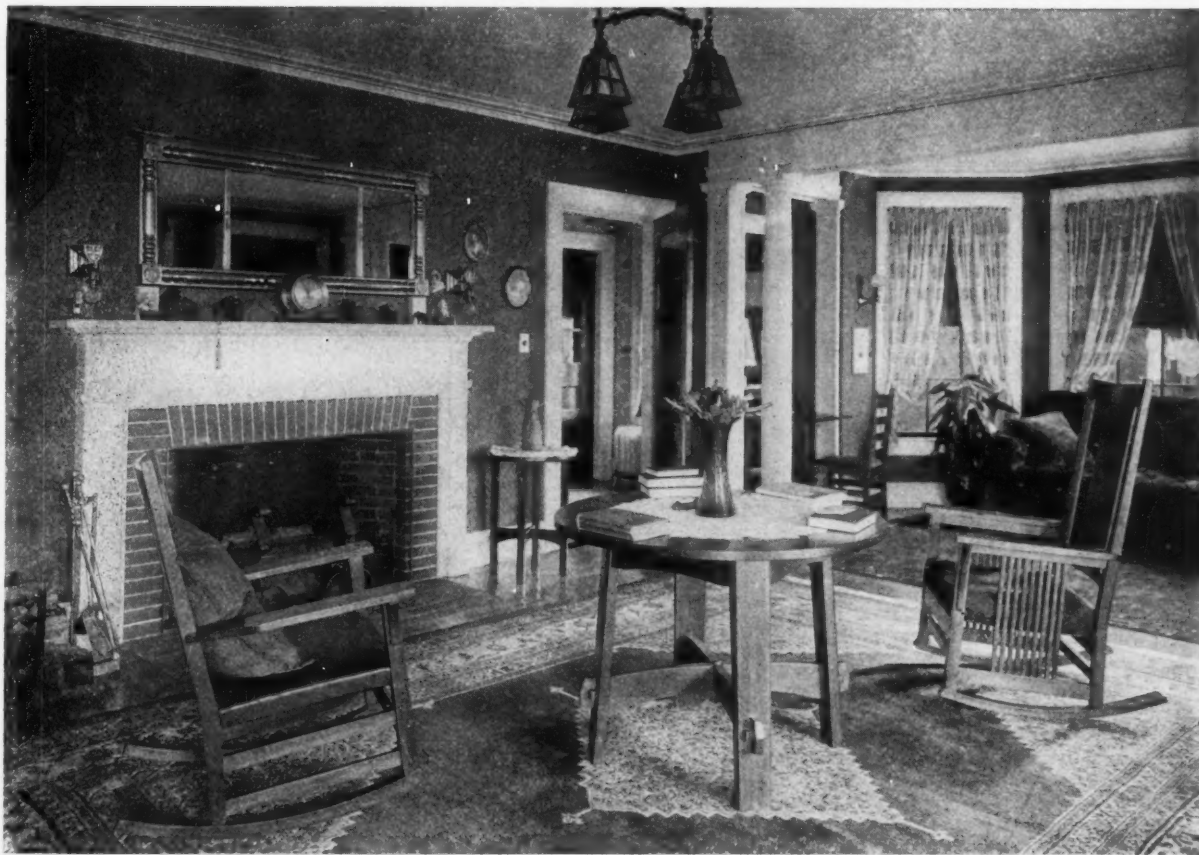
The Sea Side Home of J. D. Crosby at Marblehead Mass. Cost, including Steam Heating Plant, \$6,000. Peare & Quiner, Architects

masonry house of a popular English design is shown on page 45. This design was made by George Jackson, architect, New Haven, Conn., and we are informed that these plans are now being carried out in

a very successful way in a residence under construction in that place. The total expense is stated as \$4,500.

The commodious seven-room house, photograph and





Two Views of the Living Room—J. D. Crosby's House at Marblehead



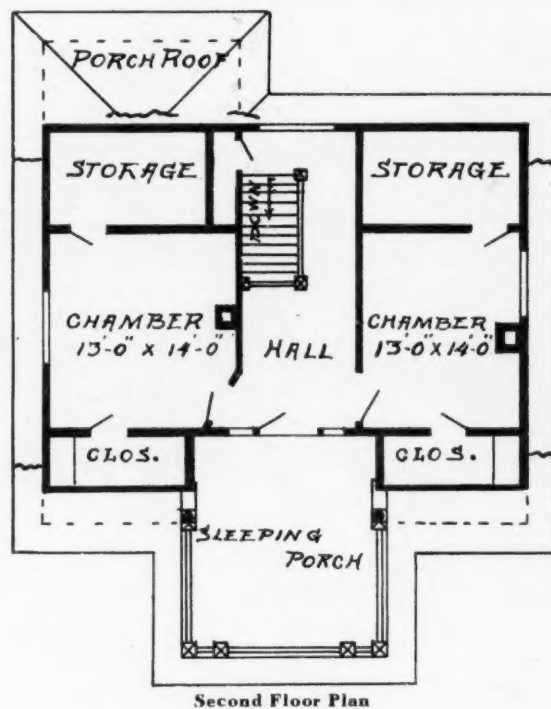
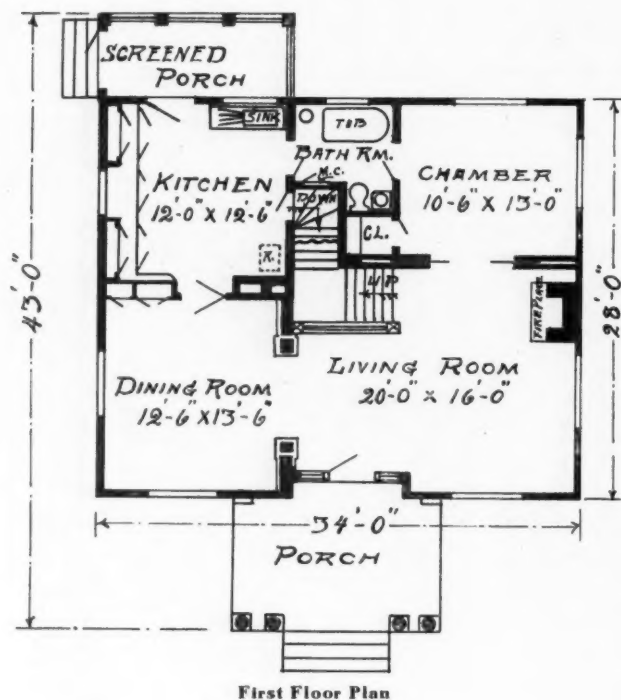
Cosy Home at Hood River, Oregon. Designed and Built by C. H. Beltz for Mr. F. C. House at a Cost of \$2,500

floor plans of which are shown on page 46, was designed by Henry Worthmann, architect, for his own home in Oak Park, Ill. Every convenience is embodied in this attractive design. The cost complete was \$7,500.

floor plans attached. They contain some very good points, both in arrangement and design, that are worth while studying.

A Western House

The last design shown, that on page 50, is a 2-story



Page 47 shows a very popular design for a small, economical house.

On page 48 two fine houses are presented, each with

house of the current popular bungalow order as they are built in some parts of the west. This house was built in Omaha, Neb., at a cost of \$4,200.

Drainage and Foundations

The kind of foundation which may be used for any particular building depends partly upon the nature of the building and also partly upon the character of the soil or the site upon which it is built.

We might classify soils as wet or porous, and dry or solid; but in this case we will divide the sites into two classes; those which can well be drained and those which cannot.

For even though the soil be firm and dry, we should not expect to do much excavating or erect much of a

in soil which is wet or on sites where, for any reason, drainage is impracticable, we must plan to make such construction water-proof. This is not a difficult mat-



Living Room, Home of F. C. House, Hood River, Ore.

building without making some provision for draining away the water which may be expected to be present at times, provided, of course, that such drainage is practicable.



Looking into the Dining Room, Home of F. C. House

And on the other hand, we may have to deal with a wet, porous soil and a site where there is a quantity of water; yet it may be that by well arranged drains, this can be made an excellent building site.

In draining a building site the main points are to get the drains sufficiently deep, have enough of them and have them connected to an outlet of ample size and with a good fall.

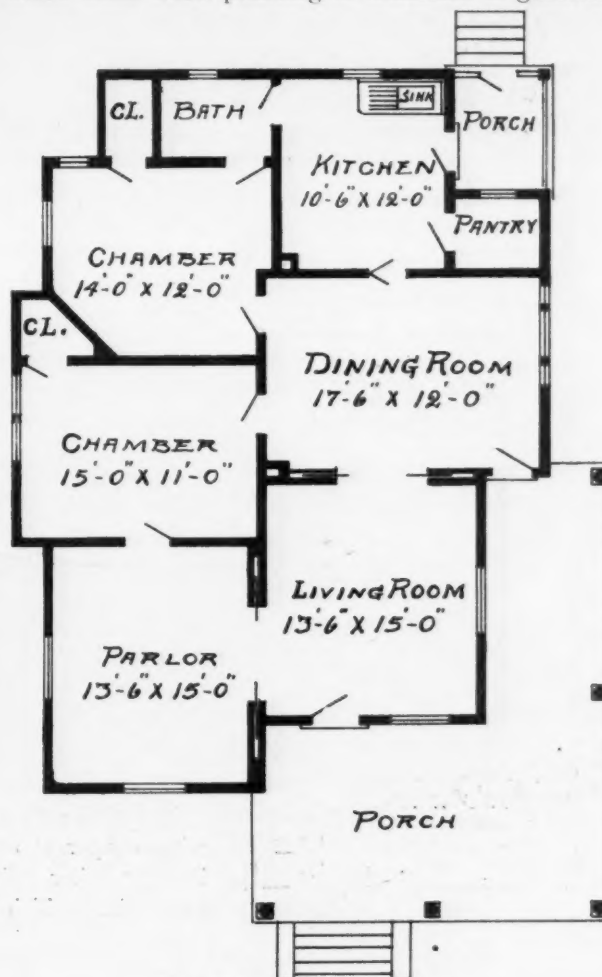
When we attempt to construct cellars or basements



Residence of Wm. Wolf, Flora, Ill. Designed and Built by Frank S. Nichols. Cost Complete \$2,000

ter provided we are not unduly scrimping as to the expenses.

A few inches, more or less, of good concrete with which some water-proofing is combined is generally



Floor Plan, Wm. Wolf's Cottage

sufficient. Then in some cases asphalt and felt are used.

There is a class of buildings in which little attention



Home of Nels P. Nelson, Oak Park, Ill. Cost to Build, \$2,825. Thos. H. Hulbert, Architect and Builder

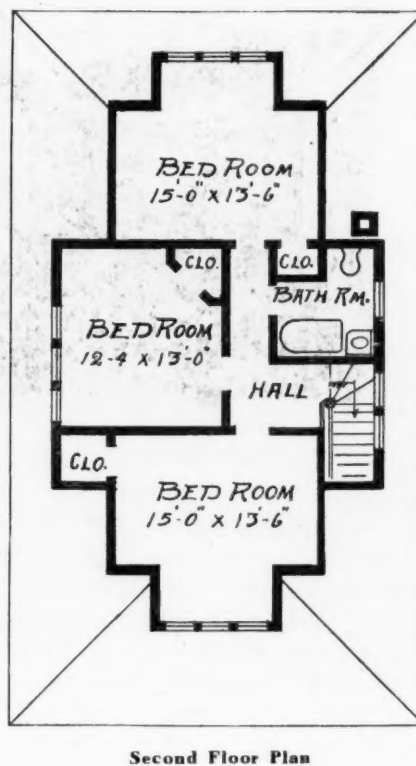


is usually given to the foundation. These are small barns and other frame structures. It is common practice to place them on a few abutments or piers, or to lay a low, dry wall. This will do in some cases on a dry soil; but where the soil is porous and spongy, it is sometimes a problem how to secure a good foundation at a reasonable expense. Perhaps as good a way as any is to excavate a trench of good width and depth, proportionate to the size and weight of the building and build a good concrete wall.

This wall should be reinforced both for strength and economy. One horizontal rod on each face for each foot in height will generally be about right.

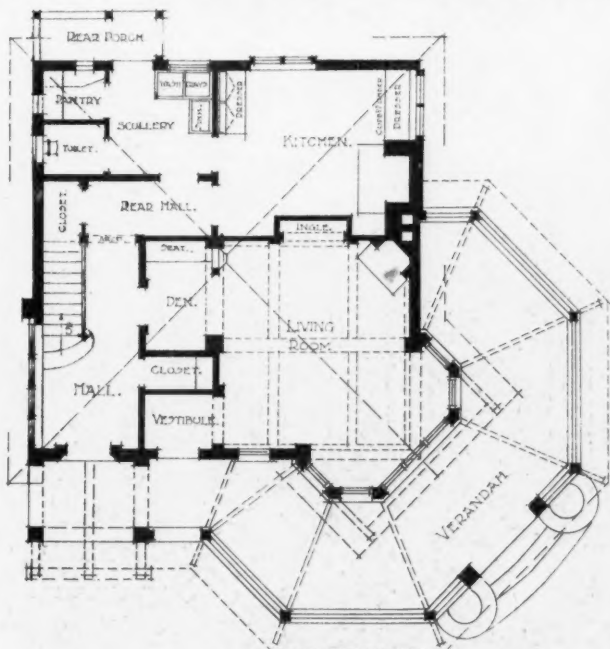
It may be well to excavate somewhat deeper at each corner and perhaps at other points, and build concrete piers which shall extend below the main wall. These piers should be reinforced vertically and may be made thicker than the rest of the wall.

For small, light buildings I have built the foundations by digging a trench a foot or more deep and of the

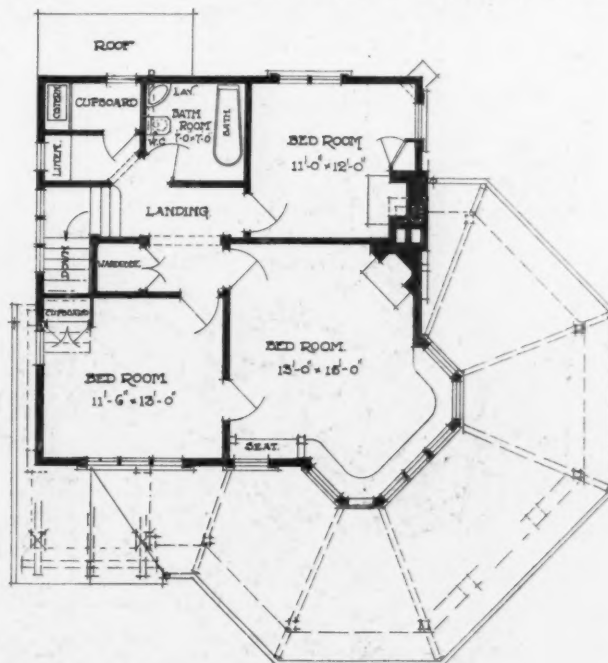


same width. At the corners and at other points in the trench, say each side of the door openings, a hole

The sills were spiked to the posts, which were set so as to be a few inches from the face of the wall.



First Floor Plan



Second Floor Plan

was bored down with a post auger to the depth of ten feet below the trench. Cedar posts were driven into these holes and cut off at the proper height to receive the sill. Forms were set upon each side of the trench, a foot high; and the trench, the holes around the posts, and the forms were filled with concrete. In some cases reinforcement was used.

Such a foundation will prove very satisfactory.

JOHN UPTON.



De-Rusting of Iron in Concrete

The cause of the disappearance of rust from iron reinforcing in concrete structures has been traced to the presence of acid carbonates and sulphates in the

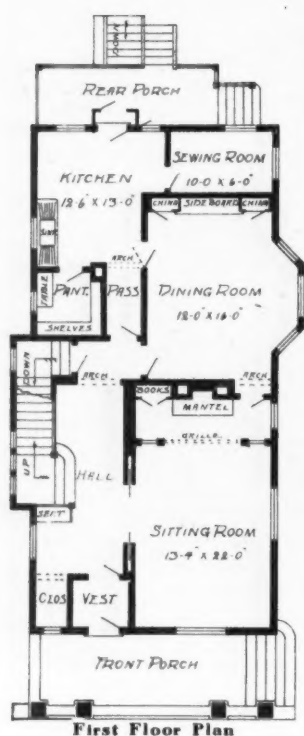


Masonry House of an English Design. Estimated Cost \$4,500
George Jackson, New Haven, Conn., Architect

GEORGE JACKSON ARCHT.
30 WATER ST. NEW HAVEN, CONN.



Comfortable Home of Henry Worthmann, Oak Park, Ill. Worthmann & Steinback.
Chicago, Ill., Architects. Cost Complete \$7,500



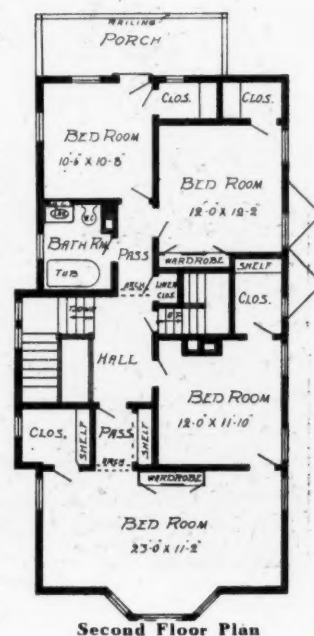
cement, these salts dissolving the iron oxide and leaving the metal bright. The cement in setting absorbs carbonic acid from the air, thus forming the necessary acid carbonates, and experiments show that the de-rusting process is effected while the concrete is setting and commencing to harden.

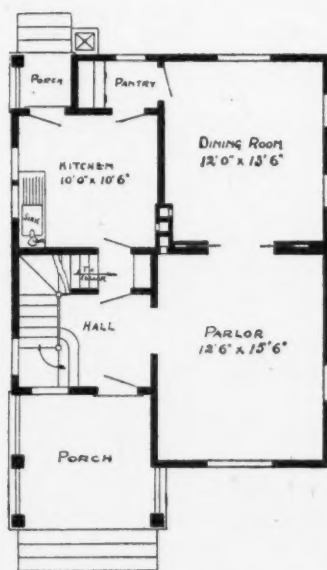
Requisite Knowledge

As a South Jersey country physician was driving through a village, he saw a man amusing a crowd with the antics of his trick dog. The doctor pulled up and said: "My dear man, how do you manage to train your dog that way? I can't teach mine a single trick!" The man looked up, with a simple rustic look, and replied: "Well, you see it's this way; you have to know more'n the dog, or you can't learn him nothin'."

Mosaic Floors in the Home

Mosaic floors have become quite a prominent feature of American architecture within the last quarter of a century. Today they are to be found in vestibules, bathrooms, kitchens, hallways, and dining-rooms in many residences, and they are acknowledged

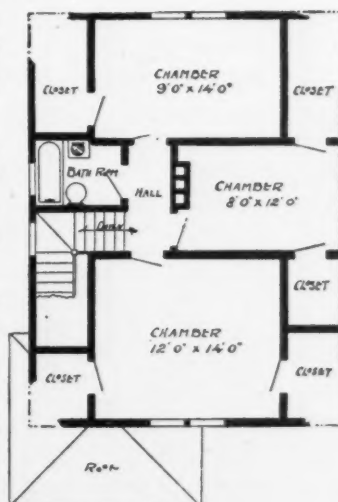




First Floor Plan

to be very sanitary as well as peculiarly attractive to the eye. The mosaic floor of today is usually constructed either of marble, which is a natural stone, or ceramic tiling. Each of these substances has its advantages for use in mosaics, but, although they have many similarities, they have also many technical and other differences with which every architect, contractor and builder should be acquainted.

Marble is a carbonate of lime, and the marble tesserae, as the individual pieces of the mosaic are called, have to be cut, and are limited in color to the shades in which marble naturally occurs. Ceramic mosaic is made of plastic clay and is a silicate of alumina, to which other materials in small quantities have been added. The ceramic tesserae are usually molded in steel dies. Different varieties of clay assume different colors when subjected to the fire of the kiln, and by the addition of metallic oxides the clay tesserae can be provided in almost any color, shade or tint.



Second Floor Plan



Home of Wm. Thompson at Battle Creek, Mich. Built by the Brownell Construction Co. for Martin P. Bwyck. Cost \$1,700

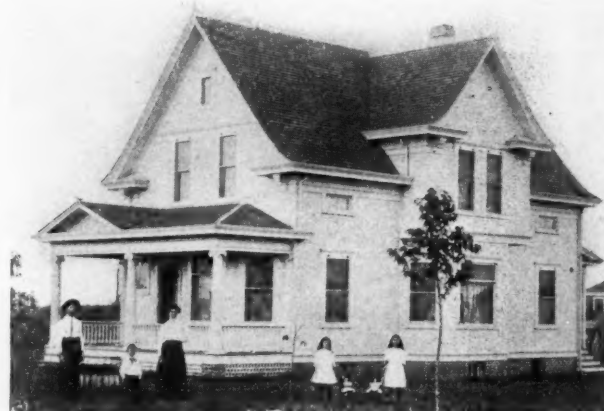
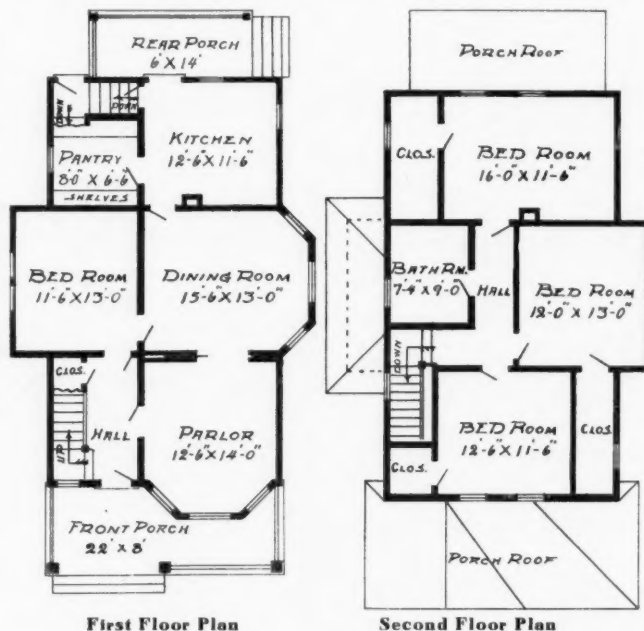
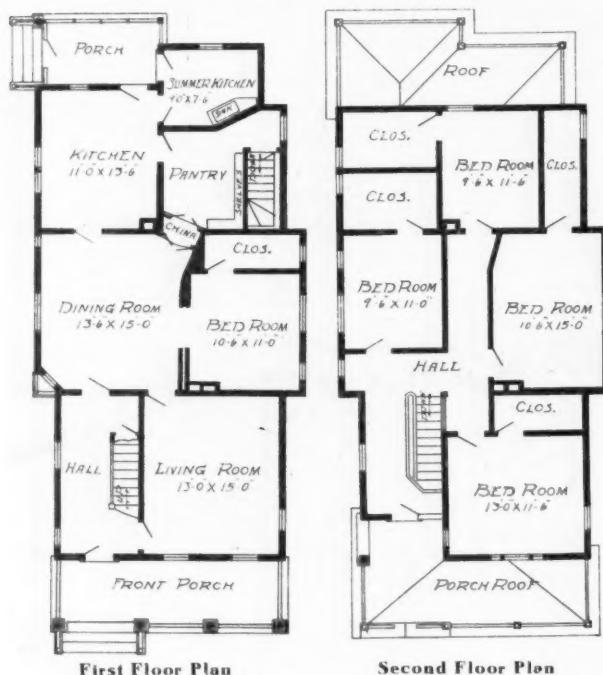
Color is a very essential factor in decorative art, and, all other things being equal, that material which presents the greatest range of color offers the greatest opportunity to the artist, be he painter or worker in mosaics. As the color range of ceramic is many times greater than that of marble mosaic, the latter is at a serious disadvantage. In the form of the ceramic tesserae, also, the ceramic mosaic presents a far greater variety than the marble. Ceramic tesserae are molded in squares, hexagons, circles, or rectangles—indeed, in any geometrical pattern—while marble tesserae are nearly always cut in squares.

Being a carbonate of lime, marble is a soft material, which is readily scratched by sharp or gritty substances, such as steel or sand. Marble mosaic makes a very attractive floor, but owing to this softness it is

A most important factor in the durability of mosaic floors is the composition of the foundation in which they are set. Both marble and ceramic mosaic floors are set in Portland cement; but the ceramic mosaic is



Home of E. W. Tuttle at Bladen, Neb. Built By H. L. Richendifer
Cost \$4,500. E. Bishop, Blue Hill, Neb., Architect.



Home of Mr. Elmo Hadley, at Diller, Neb. Designed and Built
by Himself

set in a pure cement mortar, while the mortar in which the marble tesserae are set is mixed with lime. Set Portland cement is a silicate of lime, and as such is far too hard to be cut with sharp sand. Mortar made of pure Portland cement and sand has no plastic or adhesive qualities and is, therefore, rather difficult to work with; but by adding a small amount of lime the wet mortar can be made adhesive and it will hold better to the concrete foundation, especially in wall work.

Among the greatest values of inorganic flooring material, in the form of mosaics or otherwise, are its sanitary qualities and the facility with which it can be cleaned. Here, also, the ceramic mosaic possesses marked advantages over marble. Marble is partly porous. Owing to this porosity, marble floors can absorb dirt and septic matter. Modern bacteriologists have proven that micro-organisms are vegetable

not advisable to use it in places where it is liable to encounter cutting substances. Clay, on the other hand, can be baked harder than steel or almost any natural stone. Consequently sharp sand and the steel nails of shoes do not scratch or wear it.

growths. Lime is an essential to vegetable life, and as marble is a carbonate of lime, it gives a certain amount of encouragement to the propagation of germs, or septic matter. Clay on the other hand, is absolutely sterile, so far as germs are concerned. In the form of vitrified tile or ceramic mosaics the clay material is so baked that it is either absolutely non-porous or, at least, so dense that it cannot absorb septic matter.



Regulation of Heat and Ventilation

"The first thing to be done in our homes, to bring about a better condition, no matter how they are heated," says *Building Management*, "is to stop overheating our living-rooms and our bedrooms." A thermometer is almost as essential as the heating apparatus itself. With furnace, hot water, or steam heat, a thermostat should be used, and under ordinary conditions, the temperature in the living-rooms should never be above 72 degrees Fahrenheit. If proper pre-



Modern 8-room house built in Oak Park, Ill., by S. T. Gunderson & Sons. Cost \$4,750. F. O. DeMoney, Architect. This house is finished in oak throughout and has hot water heat.

cautions regarding humidity are taken, a temperature from 65 to 68 degrees will be found perfectly comfortable, and effect a considerable saving in the coal bill.

The regulation of the humidity is especially important. It is humidity and not real heat which is responsible for so much of the discomfort produced in the warm months of the year. A hot-air furnace should always be equipped with an automatic humidifier of the right size. If it has this equipment, the proper degree of humidity can be assured in the home. If no humidifier is applied to the furnace, the water pan should be kept full of water, and a small can, or bucket of water should be hung under each register. If the home is heated by either steam or hot water, the indirects should be equipped with a perforated pan humidifier, which is not expensive, and is so made that, while it will furnish a large volume of moisture in the air, it will not interfere with the heat.

The most important of all the requirements for controlling and regulating the heat is the ventilation. All ventilation must begin with the removing of foul air.

Homes with fireplaces have a first-class exhaust vent, if properly used. If the fireplace is built solely for ornament, the top of the flue should be capped with non-down draft vent head. In homes heated by stoves or hot air, a light fire of shavings or paper built in the fireplace will start the draft upward, and the exhaust vent will be completed. Much better results can be obtained where the fireplace can be used, as a light



A very artistic Oak Park, Ill., home costing complete, \$5,250. It has 7 rooms, one a large 25' living room with beam ceiling. Oak trim throughout; hot water heating system; gas; electric lights; modern plumbing and fixtures. S. T. Gunderson & Sons, Builders.

coal fire, or the heat from a gas log creates a strong updraft. In homes heated by steam or hot water, a positive updraft can be maintained in the fireplace by running an aspirating pipe up the flue.

One bedroom, at least, should have an exhaust vent for cases of sickness. The living-rooms in homes built without vent flues and heated by stoves, will have to depend upon window ventilation and the fireplace for fresh air and ventilation. When possible the window vents should be placed so as to get cross circulation,

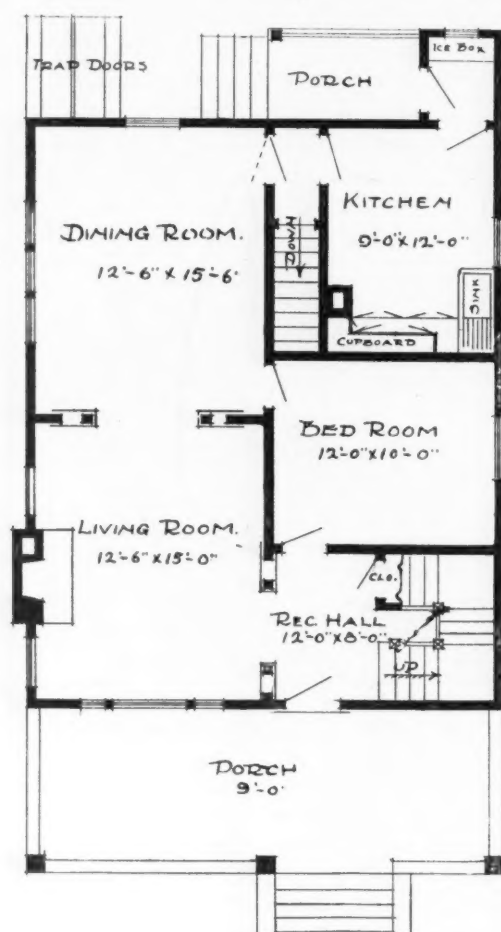


Home of S. M. Gunderson, Oak Park, Ill. Eleven rooms, including large ball room. F. O. DeMoney, Chicago, Architect. Cost complete, \$10,000.

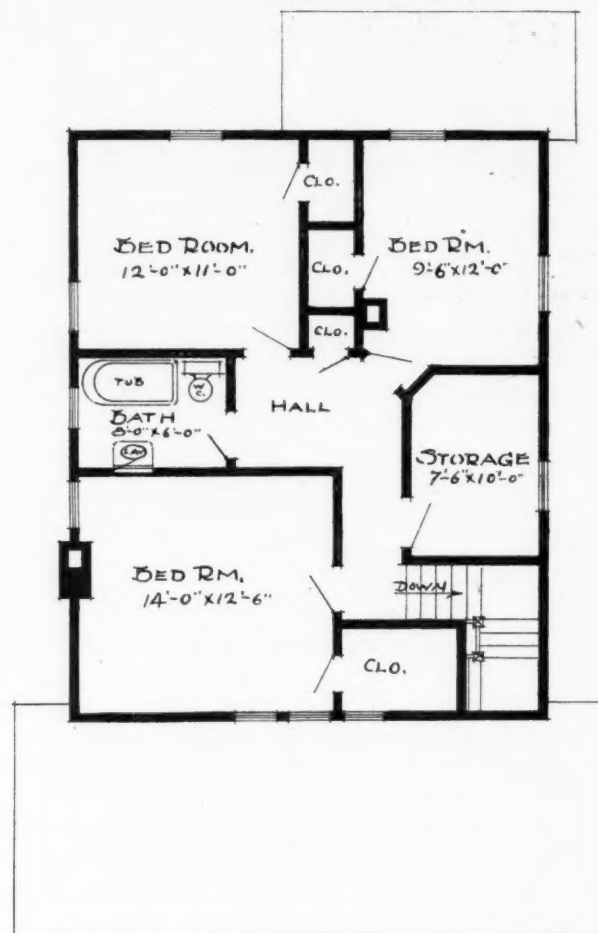
by putting a small vent in two windows, placed opposite each other in each room. If this is not possible, there should be two vents of a larger size placed in two windows as far apart as possible. This method of ventilation is more expensive in fuel than that by aspirating vent flues, but it is worth the price in the health and comfort which it provides in the long run.



Attractive Residence Built for Eugene P. Meladey, at Omaha, Neb. Cost \$4,200



First Floor Plan



Second Floor Plan

The Kitchen of Today

THE WORKSHOP OF THE HOME AND HOW IT SHOULD BE ARRANGED AND FINISHED FOR GREATEST COMFORT TO THE HOUSEWIFE

By Lynde Claves

THE kitchen of today differs materially from the kitchen of long ago. The twentieth century housewife realizes fully the importance of seemingly minor details in making the kitchen a habitable apartment and in planning the home, gives much thought and study to its situation and appointments. Modern architecture achieves its greatest triumph in bettering things that for generations past have been faulty. The successful architect is the one who remedies little evils, which without careful thought, lurk unnoticed, and which are blighting influences to the comfort and home spirit so eagerly sought.

The situation of the kitchen is important. A northern exposure is the most desirable, and this apartment will be cooler and more conducive to comfort, if it has no southern window. The little sun needed can readily be obtained from eastern or western windows, or from a window towards the north, which gives a steady light. A large window facing the south is all very well for the living room, where the bright, warm rays of the sun are desirable, but they find no welcome place in the kitchen, where the busy housewife cooks and cleans, and where the cool air is refreshing. Proper ventilation is of course essential. Windows on opposite sides of the room permit of a cross draft, which will air the room thoroughly. When possible, they should be so arranged.

Careful thought should be given to the arrangement of shelves, the position and space the range is to occupy, and the most convenient place for the sink. These appointments are most important, and should be attended to before determining the treatment of walls, ceiling and floor.

A tile floor is always attractive, non-absorbent, and easily cleaned. Glazed tiles are more sanitary than unglazed ones, and are prettiest in shades of buff. Marble mosaic, terrazzo, and the granolithic floor with a basis of cement are also much employed, and have the advantage of being less expensive. Like tiles, however, they have the disadvantage of being cold to stand on.

Within the last few years an effort has been made to produce a floor material of fireproof character that would have some of the elastic property of wood, and several materials such as lignolith, monolith and asbestolith, have been put upon the market. These are all patent compositions of wood fiber and plaster put on in a plastic condition, much as plaster is, and then trowelled down and polished. They are made in various colors, and have the advantage of having no joints or cracks wherein dust can collect. Unfortunately, however, the surface wears with use, and requires revarnishing and repolishing much as a wooden floor, but not so often.

The well-laid rift-sawed hard pine wood floor still finds favor with many. Well oiled, and washed frequently, they do not crack or make open seams. Care should be taken, however, that the boards are sawn rift, as any other kind shortly mean a slivering floor, which above all things should be avoided. The question of flooring is most perplexing, and is most satisfactorily decided when left to the mistress of the house.

The treatment of the walls is important. Wall paper, as a general rule, should not be used; although covered with a coat of shellac, which permits of its being wiped and kept clean, it is sometimes employed. Oilcloth of tiled pattern, used in conjunction with linoleum as a floor covering, gives the appearance of a tiled kitchen, at a small outlay of money, and has found favor with many. This also admits of frequent wiping down which prevents it from looking soiled and grimy.

A pretty wall treatment is of hard cement plaster



Corner of a Modern Kitchen

applied to metal lath and finished to a smooth surface. This is often done in grooved lines, resembling tiles. After it is dried, it is treated to several coats of white lead and oil paint, and a final coat of enamel paint.

Perhaps the most effective treatment is the one least expensive. Oil, mixed with varnish, rubbed into the walls gives them a soft tint of light yellow, and each successive coat turns them a trifle darker. The finish becomes darker after a time, and it is well to remember this, so as not to have your walls too dark at first. Varnish added to oil makes a surface that can be washed and that steam will not discolor.

Now as to the range and sink. The location of the chimney decides the former. If one is particular in regard to the smell of the cooking, a hood, connected

with the ventilating flue can be placed over the range. Or a register in the chimney, near the ceiling, will do just as well, but care must be taken that it surely connects with the ventilating flue, which is obtained by building an iron smokepipe inside the brick flue, and utilizing the space about the smokepipe as a ventilating shaft. The air, brought in contact with the smokepipe, is thus warmed, and there is always a good upward draft.

The sink should always occupy a space where there is plenty of light. Between two windows, or under a window, are ideal locations. In the latter case, care must be taken to have the space between the window and sink from fourteen to fifteen inches. Do not set the sink too low, or a person washing dishes will be required to stoop over, thus straining the back. Two feet eight inches is the average height of the sink, although some prefer to have it a few inches higher.

Porcelain, enameled iron, soapstone or slate are the materials of which the sink should be constructed. Of these, porcelain is the most expensive. It is also the most attractive, with its pure white coloring, high glaze, freedom from cracks, and absence of sharp corners, which makes it most desirable.

Second in importance is enameled iron. This is nearly as good as porcelain, and very much resembles it. The enamel is applied in such a way that it does not wear off, and only the roughest usage will nick it.

Slate sinks, of a close-grained dark slate, such as Monson Maine slate, make very desirable sinks, are easily kept clean, and wear well. Shelves of slate placed on either side, or at both ends of the sink, grooved to drain into it, are better than wood, are inexpensive, and can be obtained of any length desired. It is well to have a slate back for both sink and shelves.

Careful attention should be given to the planning of an easily accessible place for the pots, kettles and other utensils, also for the various food-stuffs, as flour,

ber is swelling, who apply the laboratory system to their own kitchens, and use glass jars, set on open glass shelves for their stores, and glass shelves and metal hooks for pots and kettles. Glass has the advantage of being easily cleaned, thus rendering it sanitary. It also possesses a second advantage, as it enables one to tell at a glance when the stores are getting low, whereas boxes are generally low before one thinks to carefully examine them.

Narrow shelves are preferable as they occupy less space, and do not afford an opportunity for overcrowding, as is often done if the shelves are wide. Some prefer to have their shelves enclosed in a dresser in the kitchen or in a closet opening from the kitchen. This latter device is generally fitted with open shelves, cupboards and drawers. About three feet from the floor is a broad shelf, known as the counter-shelf, fitted with hinges so that it may be lifted up. Below this shelf are drawers and a cupboard just large enough to hold a barrel of flour. A definite place for each and every thing is necessary, as it prevents confusion when one is in a hurry and wishes to use some certain thing.

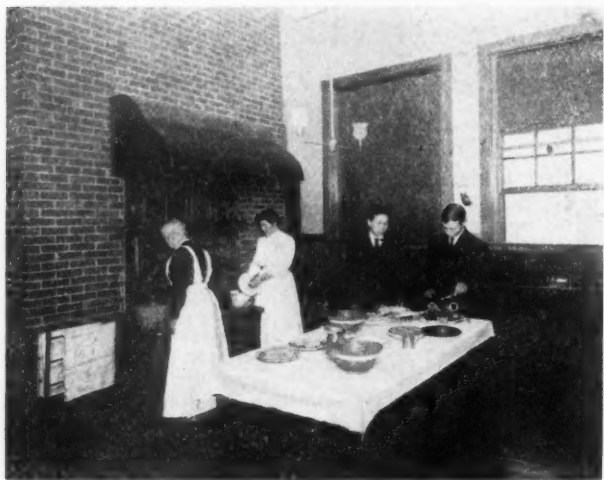
Each housewife has her own ideas as to the arrangement of the various utensils. Some use the closet for this purpose; others insist that the pans hang on separate hooks, and not be jumbled together. One housewife of my acquaintance has solved this question very satisfactorily. She has had a shallow closet built, the thickness of the partition, which she has fitted with a series of racks, very similar to those found on the backs of church pews, which hold the covers of various saucepans. Underneath are hooks on which the pans are hung, bottom side out. This, my friend claims, keeps them free from soot and dirt, and always ready for immediate use.

Sometimes the space beneath the dresser is used for this purpose. A kitchen cabinet is handy, and can be so constructed as to be within the means of the most limited purse. They afford ample space for the convenient arrangement of pots, kettles, etc.

Now, as regards the kitchen furniture. One or two tables are necessary, and the size of same should be in proportion to the surroundings. The old-fashioned wooden table is still much employed, and covered with oil-cloth, serves its purpose well. It is far better, however, to have a marble or glass top table, as these tops can be removed and thoroughly cleaned. Drawers beneath the table are very handy to hold towels, knives, spoons and other useful articles. The legs of the table should be sturdy and set squarely on the floor.

Chairs seem indispensable, and yet as a rule there is but little room for them. They should be of strong material, and simple in design. Rocking chairs are a nuisance, and stuffed chairs are dust collectors, and both are unnecessary and undesirable in this apartment.

The refrigerator, while not distinctly a part of the kitchen furniture, should always be placed near at



Showing Large Range, with Ventilating Hood

meal and cereals. While the majority of housewives have closets specially built to contain these different things, yet there are some, and year by year the num-

hand. A porch, or better still, a closet leading from the kitchen, is a good spot for its placing. A shelf placed above it for the placing of food, while the refrigerator is being cleaned, is handy, and saves many steps for the busy housewife.

The women of today are beginning to realize the importance of the kitchen and its appointments, and in the course of a few years, doubtless many more im-

provements will be noted and put into effect. It is an apartment that should be designed with as much care as any room in the house. It is not a place where practical devices can be aimlessly thrust; it is not a left-over space, unworthy of thought and consideration; it is the spot where the mistress of the home spends many hours each day, and should therefore be pleasantly and commodiously arranged.

Plumbing and the Placing of Pipes

SOME PRACTICAL ADVICE TO HOME BUILDERS BY A CONTRACTING PLUMBER—THE PLACING OF PIPES TO PREVENT FREEZING

IN THE building of houses according to what is known as the modern idea, there is nothing more essential than the plumbing work. First, the plans for that portion of the work should be carefully considered, the second care being that the construction then should be in accordance with the approved specifications.

There are reasons more than one why the plumbing should be given careful consideration when the house plans are in the formative stage. If the entire house is designed merely to suit the idea of a porch which has pleased a fancy, there is a strong possibility that the plumbing or some other important feature of the construction will "take what's left" and be glad of the chance to get in any place, any old way.

Plumbing Most Essential

In cities especially, where the building becomes congested, there is no escape from a certain amount of plumbing if it be nothing more than a waste pipe or two leading to the sewer. In a modern house, under the general acceptance of the term, the plumbing is one of the most important features of the construction. The man contemplating house building should get a few pointers from practical men in the trade, pointers which cost him nothing and serve him well ever after. The science of plumbing has advanced to such a degree that few, if any, master plumbers worthy of the name but can give the house builder important tips that are followed by lasting benefits.

There are little things that are slighted in the desire sometimes to save a bit of money in the installation of the work. Afterwards they become constant sources of expense. That is true even though the contracting plumber conscientiously performs every bit of work demanded by the specifications.

"They have learned by experience, those persons who have built more than one house," said a contracting plumber, "but the trouble is that the majority of persons never build more than one house. They make a mistake and suffer from it forever. One of the errors common to inexperienced persons is so placing a bathroom, for instance, that the pipes leading to and from that place are against the outside walls of the house. That should not be done if there is a way to avoid it, and usually it's not a difficult matter. In a frame house, for instance, with the pipes against the outside

wall, the danger of freezing is vastly increased. Of course pipes that freeze and burst during the winter time make a harvest for the plumber, but there is really no necessity for it.

Reducing Danger of Freezing

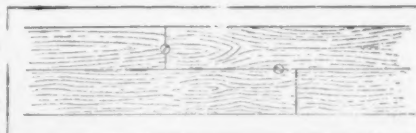
"If the pipes are carried to the second floor for instance, along or inside an interior wall the danger of freezing is reduced to a minimum. That's such a simple thing, so plain to any one who gives it a moment's consideration that you would think that no one would overlook it. You would be surprised even now to see how many times that mistake is made. Pipes freeze in well-built houses, if they are in or against the outside wall. That is true especially when there is a high wind. Then pipes which will safely withstand twenty or more degrees of more intense cold, freeze and burst.

"Such mistakes bring work for the plumbers, it is true, but it is work that comes grudgingly nine times out of ten, and in spite of all that is done such business never pays. There are little kinks in the business which if the house builder had a line on wouldn't cost him anything, or at least not much in his building, and there would be a certainty that he would avoid what are now common annoyances."



How to Keep Floors From Squeaking

The noise in floors that squeak in various places when stepped upon is caused by the boards rubbing together. A good remedy, says *Popular Mechanics*, is to turn in screws



through the cracks, as shown in the sketch. This can be done at housecleaning time. The screws will either spread the boards or hold them together so they will not squeak.



Poultry Note

"So, you are raising chickens?"

"Yes," answered Mr. Crosslots.

"What do you find the greatest menace to the welfare of poultry?"

"Sunday company."



Home Building Under Difficulties

HOW THE SAND DUNES ALONG THE EASTERN SHORE OF LAKE MICHIGAN ARE BEING RECLAIMED—
A MODERN HOME BUILDING PROJECT

By C. R. W. Edgcumbe

AS THE boats plying to and fro between Chicago and the "twin cities" of St. Joseph and Benton Harbor approach the Michigan shore, north and south as far as the eye can reach can be seen immense sand dunes rearing their heads in fantastic

shapes. From a scenic standpoint they are delightful; but commercially these dunes are barren and worthless, especially so when practically hemming in a city which needs the room to grow. True, the gleaming white sand would yield fortunes in many places; but here its very abundance makes it almost worthless.

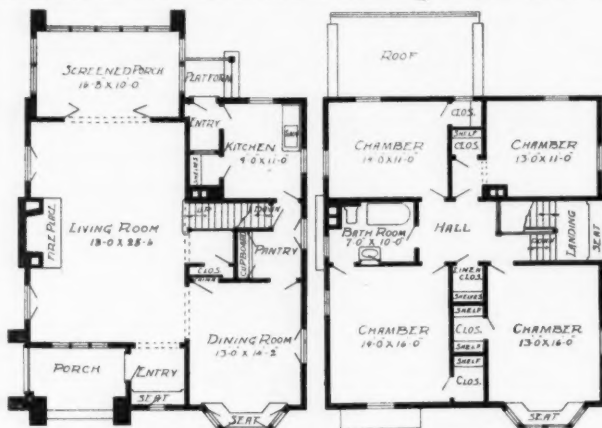
St. Joseph has been restricted; the only way it could expand was due south along the lake shore, for Benton Harbor lay immediately on the eastern side of the river, and to the north were the sand dunes seemingly blocking all growth in that direction. Mr. Frank P. Graves first saw the possibilities in this barren and forbidding stretch of sand,



One of the Houses to Be Erected—W. C. Zimmerman, Architect

shapes. From a scenic standpoint they are delightful; but commercially these dunes are barren and worthless, especially so when practically hemming in a city which needs the room to grow. True, the gleaming white sand would yield fortunes in many places; but here its very abundance makes it almost worthless.

St. Joseph, Mich., is a thriving town of about six thousand inhabitants, and owing to its nearness to Chicago, the great central market, and also to its being situated in the very heart of the Michigan fruit belt, it has become not only a Mecca for tourists, but is a manufacturing center of no little importance. Conse-



First Floor Plan

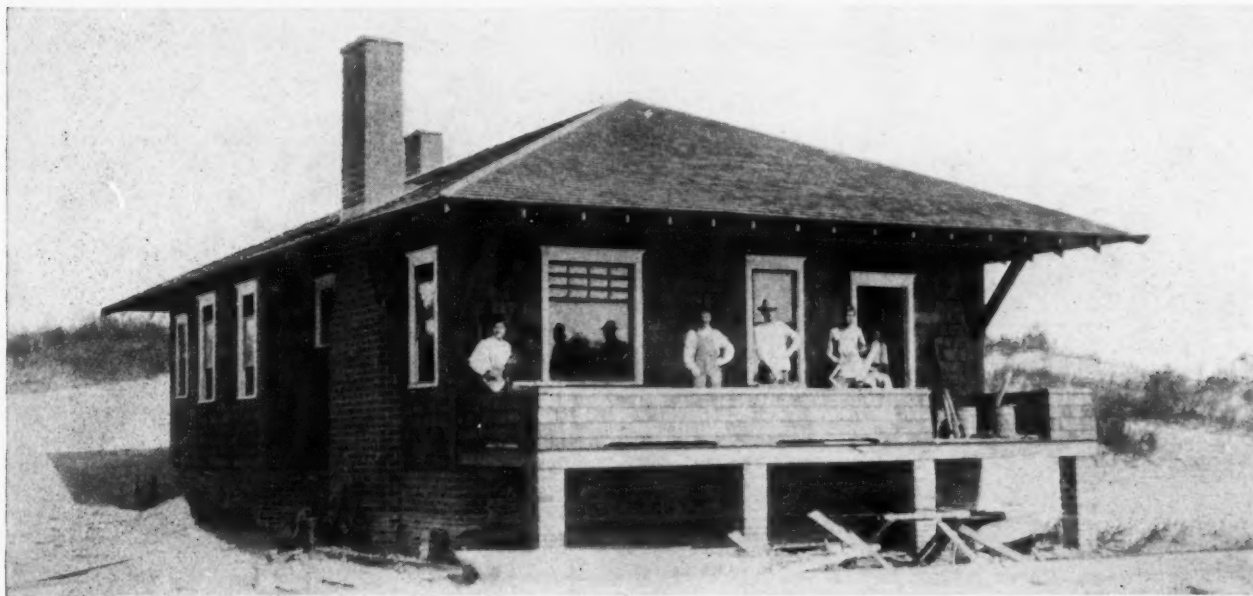
Second Floor Plan

and organized a home-building company to develop it. This company purchased 160 acres of these dunes and was laughed at. The tract purchased lies facing directly on the lake, is moderately elevated and, in spite of the splendid view, was just about as unpromising, because of the giant sand hills, as a building site



for modern homes could be. But when those who had scoffed at the idea began to see things in "Edgewater" take shape their laughs were turned to exclamations of amazement. There were extraordinary difficulties

plete as any in the country. No expense either in its construction or equipment has been spared to make it all it should be. Herein will be found gymnasium, billiard hall, bowling alleys, library and ball



Neat Five-Room Bungalow, Under Construction at "Edgewater"

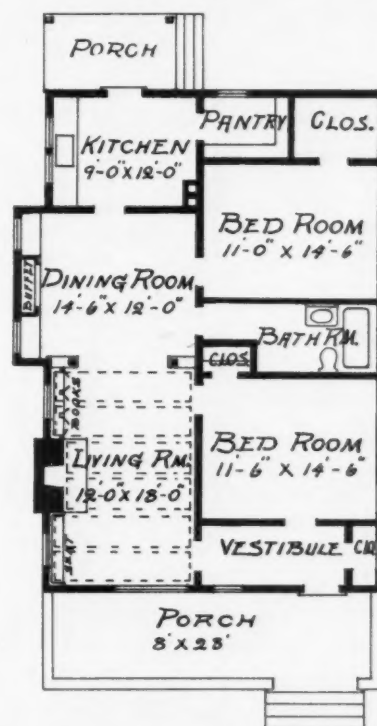
to overcome. First and foremost was the question of reaching the property; so the improvement company and the city got together and built a steel bridge costing in the neighborhood of \$50,000.

The greatest difficulty, however, was to get rid of the sand. The hills of enormous proportions are being removed by the modern hydraulic method. The water from the lake, by the use of huge pumps, is trained on the hills, literally washing them down and filling up the depressions. Over all the site when this leveling is done a thick coating of black earth will be laid. Already sewers have been put in.

In the winter when the north winds sweep down the four hundred miles of water, Lake Michigan lashes itself into fury and the waves hurling themselves at the beach force their way far inland. To protect against these waves a sea wall running the entire length of the property was called for and built. This wall is being built of solid concrete, being four feet wide at the base and eight inches wide at the top and is placed on piles four feet apart driven to a depth of ten feet. This is built about seventy-five feet from the edge of the lake. The top of this wall is about six feet above lake level. Back of this retaining wall it will be turfed for an additional seventy-five feet, where an eight-foot promenade has been built.

In about the center of this property in front of the retaining wall and directly over the lake a large club house has been constructed for the exclusive use of the property holders and their guests. This club house is in the nature of a gift from the company to the property holders in this tract. It will be as com-

plete as any in the country. No expense either in its construction or equipment has been spared to make it all it should be. Herein will be found gymnasium, billiard hall, bowling alleys, library and ball



Floor Plan of Bungalow

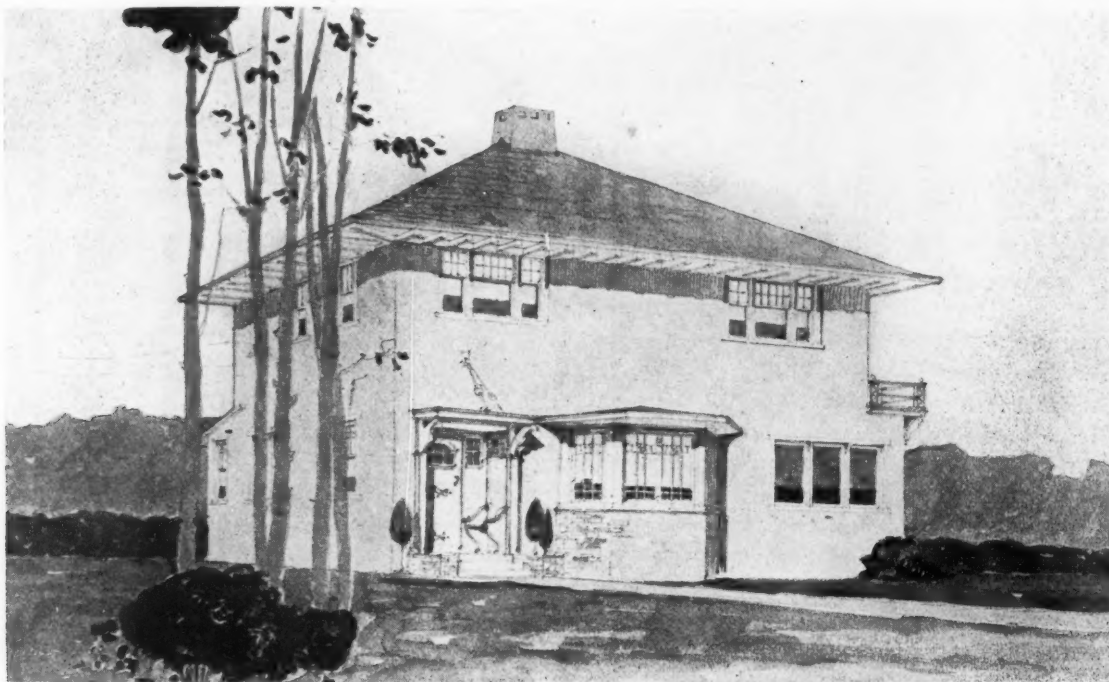
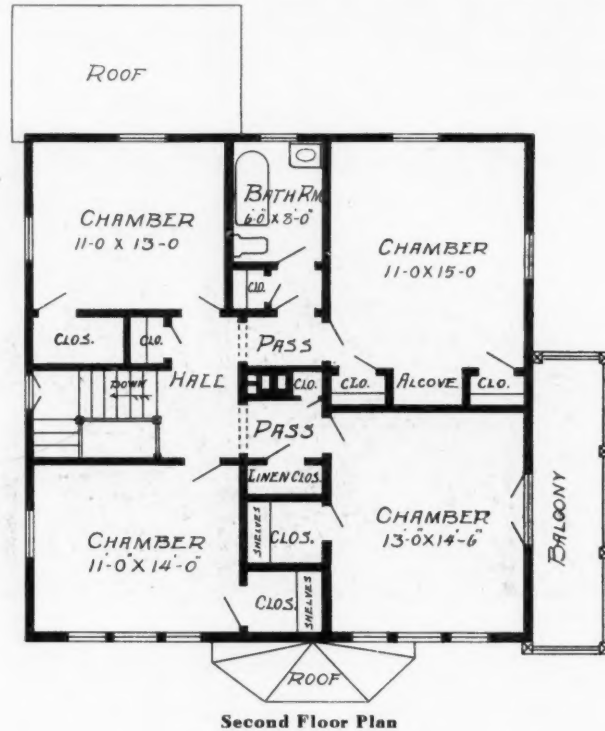
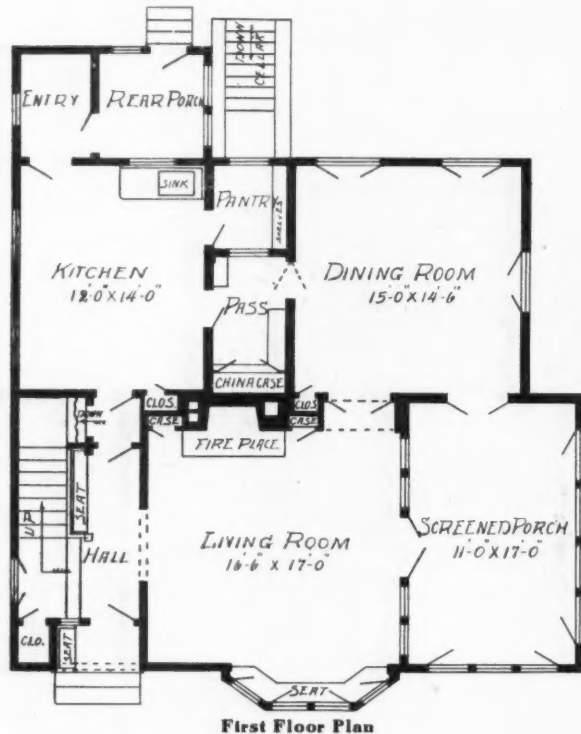
finish. Immediately in front of and extending from the club house a large pier has been built which runs out into Lake Michigan 400 feet, into water deep

enough to accommodate boats of almost any draught. At the end of this pier a large pavilion will be built.

The houses that are already and that will be erected in this addition will be better possibly than those

\$1,750. And what is more, all plans of houses must be submitted to the architect of the company for approval. Here are shown several houses that are and will be constructed.

Such well known architects as W. Carlys Zimmerman-



House to Be Built at "Edgewater". W. Carlys Zimmerman, Architect

found even in many first class neighborhoods, as all lots sold are subject to rather severe conditions. On the lots fronting the lake one must spend not less than \$3,500 for the building erected. On the other lots the minimum expenditure must not be less than

man and Marshall & Fox, both of Chicago, have been engaged on many of the houses. A. S. Lindenfelt, architect, of St. Joseph, will erect twelve houses. Mr. O. C. Simonds, landscape architect, also consulting engineer of Lincoln park, Chicago, was called upon

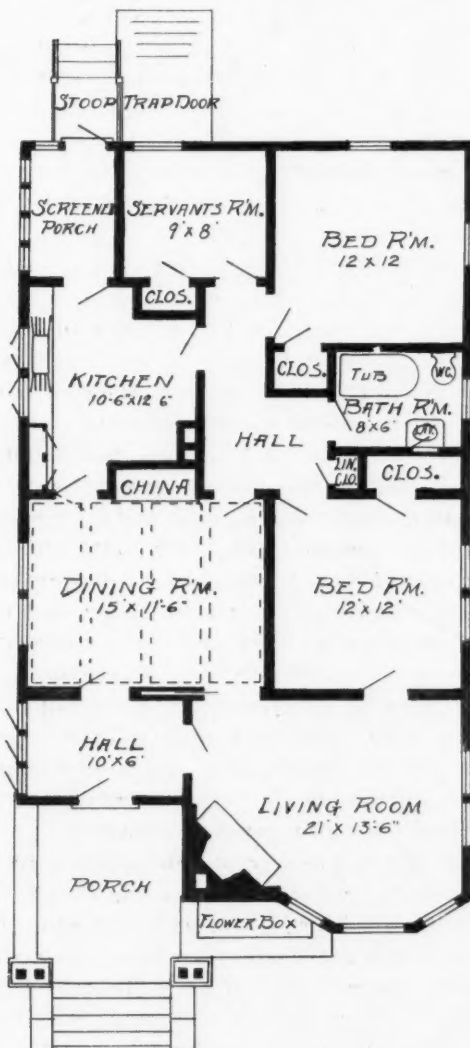


Community Club House. Under Course of Construction

to plan the streets with their landscape features.

Wide streets which will eventually be built up with beautiful homes have been laid out and shade trees

infancy the beauty of the plan is apparent. Before any of the property was sold, miles of streets were paved or started and cement walks were either constructed or are in process of construction, and when all this work is finished there will be about three miles of paving and ten miles of cement walk. The total expenditure on this 160 acres of land will approximate



Floor Plan of Bungalow

have been planted. At street intersections ornamental flower beds relieve any monotony that might have crept in, and even now while the work is still in its



Artistic Bungalow Being Built

half a million of dollars; eventually, of course, when all the homes are constructed a much greater sum will be spent.

Home Repairing Hints

An excellent article to mend broken spots in plaster when there is neither plaster of paris nor cement on hand is made of coal ashes, sand and wheat flour.

Use two parts of coal ashes, well sifted, to two parts of fine sand and one of wheat flour, mixed with cold water to a paste. This will set hard and smooth in a few hours, and may be applied by the novice.

Hot-air furnace registers are very apt to rust during the summer, or if the house is left closed long at a time. To restore them to their original state without too high and artificial a gloss there is nothing better than asphaltum. A pint can of asphaltum blended smoothly with one gill of turpentine will provide enough to go over all the registers in an ordinary house and leave them looking bright and new with just lustre enough to be satisfactory.



Possibilities of the Steel Square

HOW THE STEEL SQUARE MAY BE USED IN FRAMING ROOFS TO DEGREES OF PITCH—GENERAL RULE FOR THE SIDE CUTS OF RAFTERS FOR ANY SHAPED CORNER

FOR the steel square article this month we will take the subject of degrees framing and how to proceed with the steel square and compass.

To begin with, the steel squares in general use do not contain the degree markings; and whenever the slope of the roof is not determined by the proportion of the span, or as so many inches rise to the foot run, it is necessary to find the degrees of pitch by a trigonometric calculation or by the use of a protractor. However, in the absence of the latter, the degrees may be nearly enough obtained on the steel square for working purposes, as follows:

Lay off an angle of 90 degrees, which may be done by marking from the heel along the blade and tongue. With the angle as center, lay off a quarter circle, the radius of which may be any size desired, the larger the more accurate will be the result. Reverse the square, letting the tongue rest on the line as before, but with the 12-inch mark resting at the center from which the arc was struck, as shown in Fig. 263. Now, since a line from 12 to 12 on the square is known to be at an angle of 45 degrees, the quadrant of 90 degrees is equally divided, as shown in the illustration. If one of these parts is divided into nine equal parts, which may easily be done with a pair of spacers, it

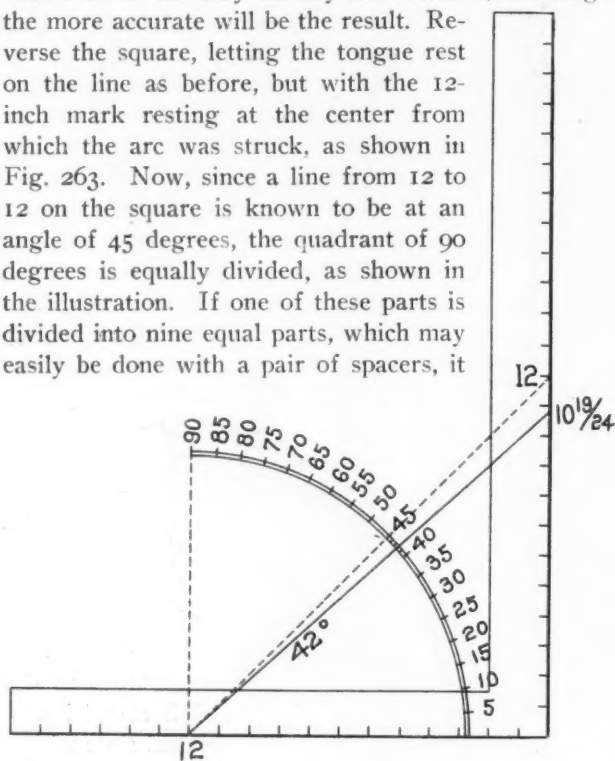


FIG. 263.

will readily be seen that these spaces will be five degrees apart. By again dividing these spaces into five parts, the divisions will represent degrees and a line from 12 on the tongue passing over these divisions,

intersecting the blade and the figures found there, will represent the figures to use to obtain the desired pitch.

Now, suppose we wish to frame a roof with a pitch of 42 degrees. Since 42 is a little less than 45 degrees, the first space below the line should be divided into five spaces and two of these above the 40th degree will be the proper point on the degree circle for the line to pass; and it will be found to intersect the blade at 10 ¹⁹/₂₄ inches, which represents the rise for a one-foot run of the common rafter. Then 12 and 10 ¹⁹/₂₄ will give the seat and plumb cuts for the common rafter. This is the starting point. Proceed for the lengths and cuts of other rafters as in ordinary framing for the ¹/₃ or any other pitch desired.

Custom, generally, has settled on designating the roof pitch by the proportion of the rise to the span, or by so many inches rise to the foot run of the common rafter, rather than by degrees. This is presumably on account of the fractions in the rise that would result, which are not easily arrived at. In framing by degrees the rise itself is not easily found except in the special case of the 45-degree pitch. This is the same as the ¹/₂-pitch; in it the tangent and the run of the common rafter are equal for the square cornered building. Now this is confusing to many who fail to realize the relation of one to the other.

We have known carpenters who considered themselves expert framers with the steel square; but when given something different from the regular square-cornered work, they were at a loss to know what figures on the square to use, and were compelled to resort to other methods, simply because they did not understand the true principles involved.

The side cuts are determined by the degree circle and are simply miters for the angle of the building to which they belong. To make this point more clear, take the jack and hip after they have been cut out for a square-cornered building, regardless of the pitch, and cut off the peak ends of both on a line parallel with their seat cuts; it will be found that the angle is at 45 degrees, or the same as the miter for the square corner. What is true of this is true of the octagon roof, or any other regular polygonal shaped roof.



Points in Current Construction

FEATURES OF PRESENT DAY HOUSE FRAMING, SOME TO BE RECOMMENDED, SOME NOT, AS OBSERVED AND SKETCHED FROM WORK NOW IN PROGRESS

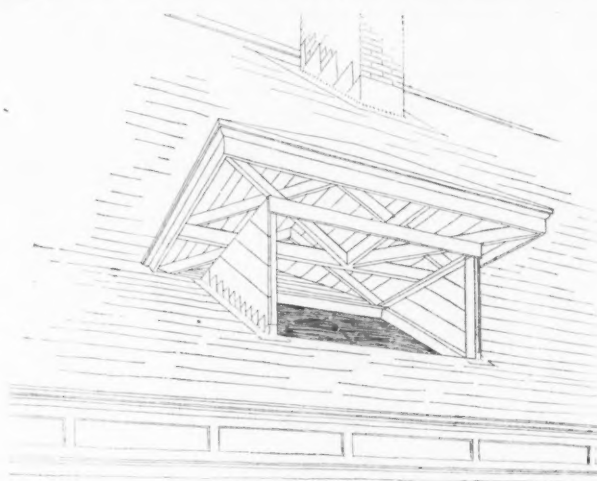
By C. Bryant Schaefer

TO the busy workman who does not have time to look about him and learn what is going on in his line of work some sketches of buildings in progress of construction will prove useful.

Applying lath to the entire exterior of a building is something new to the trade. The accompanying sketch shows a house prepared for cement plaster which has become such a popular finish for suburban residences. To what extent it will continue in use is hard to determine. Efforts are being made to discover a means of water-proofing the plastered surface and overcoming objectionable dampness. Nevertheless the cement surfaced exterior is bound to hold its own; and the question then is concerning the outside lathing, whether it is done in the best possible manner.

There is little doubt but that the wire nails with which the lath is driven fast will become loose where there is any shrinking of the studding. The wedge-shaped iron nails hold much better. Another difficulty is in places where very short pieces of lath have to be used, especially on external angles like the brackets in

Sometimes the diagonal fitting of the lath will secure additional strength. This is especially serviceable for narrow jambs, as may be seen. Possibly in the future the mill will supply a solid board lath for



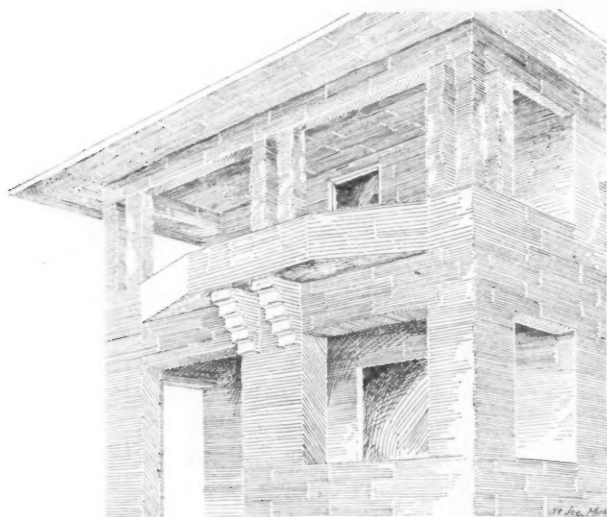
DORMER FRAMING

such small columns. It would be superior to the bits of sticks that now have to be used.

Another question arises from the fact that sheathing boards could be relied upon to strengthen the frame of the house while lathing with its brittle coat of cement is no help at all. Following the omission of joining from the framing one may well wonder how the modern house will stand the test of time.

The dormer window frame illustrated is well built. The opening through the roof is about the width of four rafters spaced 16 inches between centers. Instead of having a fascia of rough scantling around the ends of the rafters and ceiling joist, they are framed directly into the mill work. This framing should be strapped down to guard against its being wrenched by the wind.

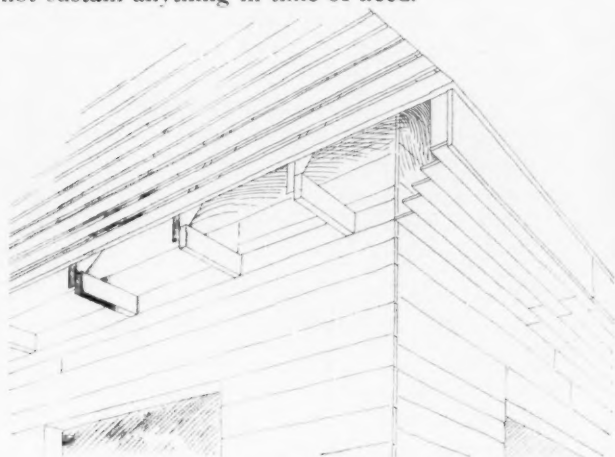
This specimen of cornice framing in the next sketch looks altogether too hasty. The sheathing is first nailed on clear up to the rafter plate. Then the outlook is nailed through the corners at one end to the sheathing without support while the other end is nailed to the thinnest feather-edge of the rafter. Both holds are bound to become loose. The ends of timber



STUDY IN LATHING FOR CEMENT PLASTERING

the sketch. Irregular surfaces of cement shrink and expand unequally in changes of temperature, cracking and drawing off the lath. In such places a piece of metal lath would be a sure remedy.

always, sooner or later, crack open and pull off from the nails. Subsequent work like the bed mold will not sustain anything in time of need.



CORNICE FRAMING

Timber must be placed against timber for strength and no reliance should be placed on nails for support.

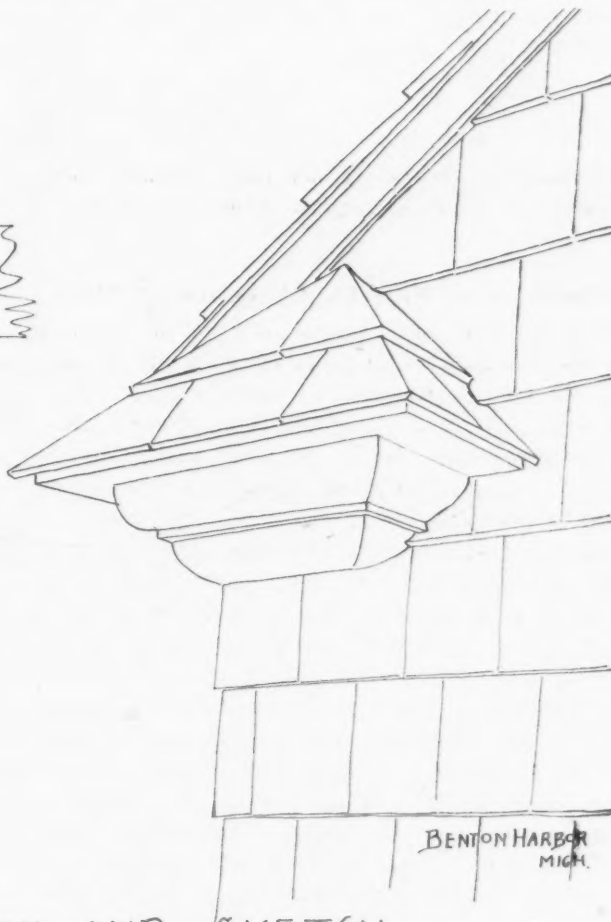
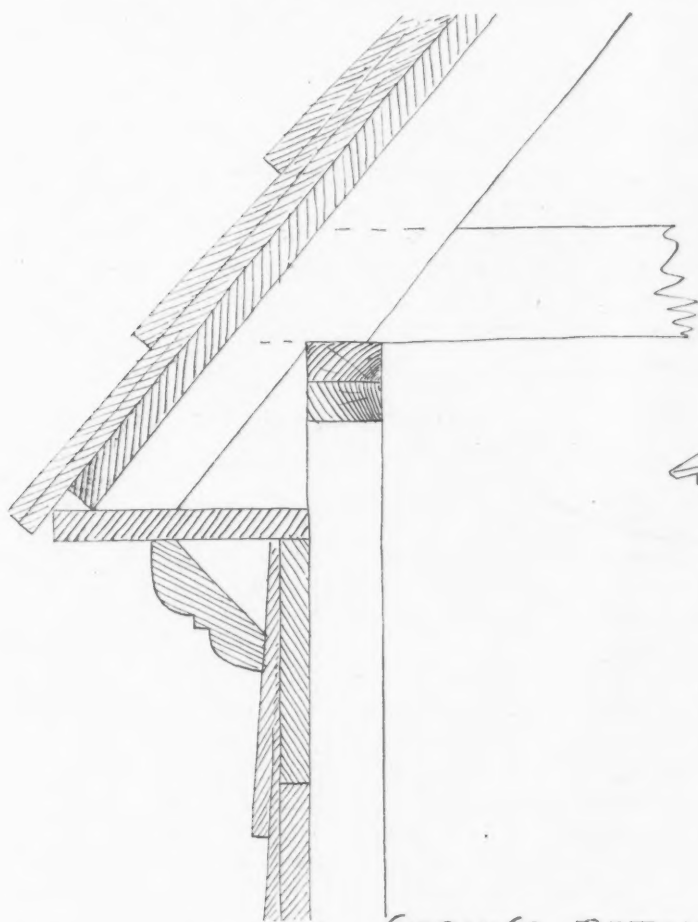
The cornice outlook should extend into the frame work and rest on top of the sheathing board, which will give it a firm, permanent bearing. This necessitates fitting short pieces of sheathing between the out-

not enough support for the outer ends. The idea was, evidently, to make a cornice that would look strong and heavy to the eye without designing a practical detail or applying enough labor to make it durable.

Houses tacked together in this careless manner can not even be repaired. When they begin to come to pieces they can not be touched without hastening their collapse. In a few years they help to make a slum district. The cause is not with those who occupy them, as people generally believe. It is the careless builder who is at fault.

The sketch of a porch showing rough framing and mill detail is good and carpenter-like. The dentals are especially suitable for wood work. Those made in imitation of stone work, overhang the supporting fillet and easily drop off when nails rust. Columns are best made to receive a jamb of screens, like this. Householders are giving more and more attention to occupying the outside of their houses as well as the inside.

In one of the sketches, that of the cornice return, the shingles were carefully fitted. The section shows the probable construction.



CORNICE DETAIL AND SKETCH.

looker. To slight seemingly trifling details such as this is ruinous.

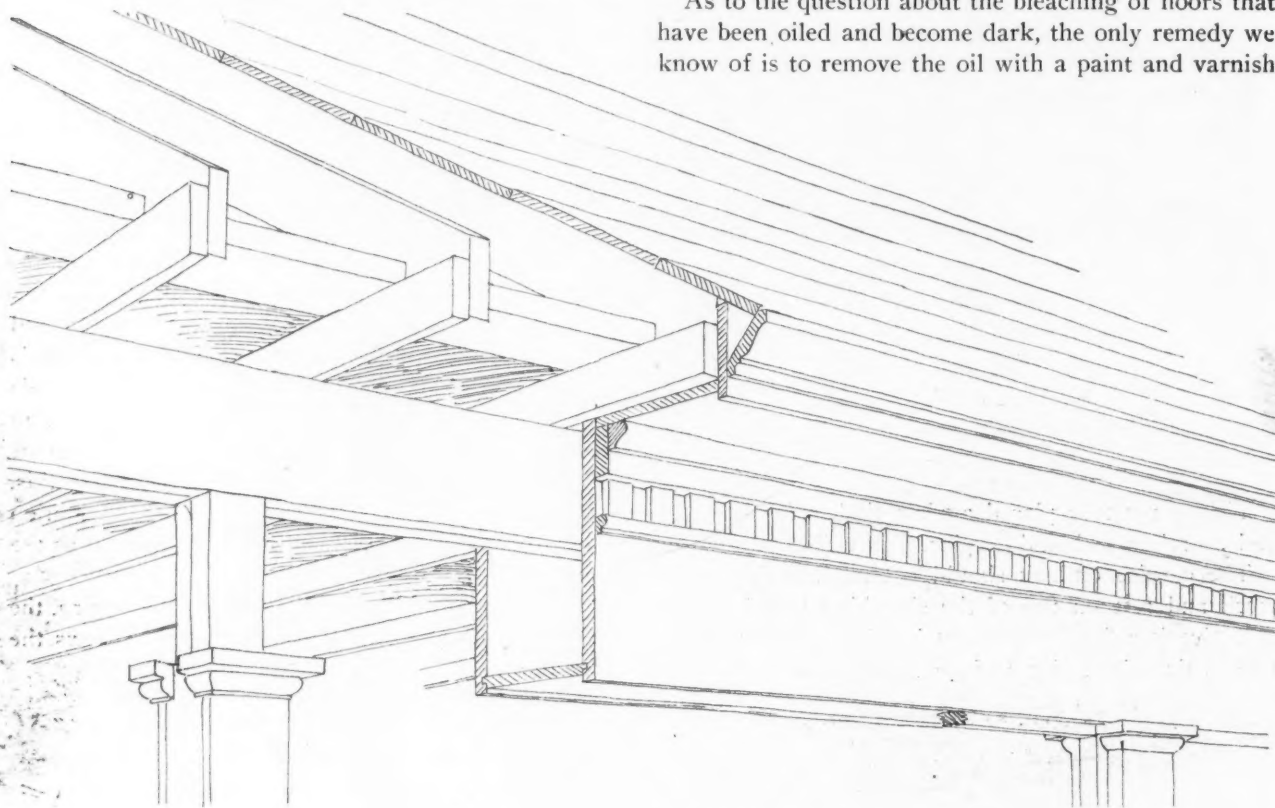
On such a large cornice as this the mill work is

This style of eaves was introduced a few years ago. Moldings were made with very little projection. There was considered to be some saving in lumber.

This was carried to such an extent that some houses of that sort look quite bald. A building needs some

white shellac varnish or repeated treatment with floor wax will not darken the wood.

As to the question about the bleaching of floors that have been oiled and become dark, the only remedy we know of is to remove the oil with a paint and varnish



PORCH CORNICE

good projections, porches or balconies to make it look inviting. Such features suggest shelter and comfort.



Methods of Finishing Hardwood Floors

The extent to which hardwood floors are being used in dwelling houses and other buildings at the present day lends unusual interest to the methods of finishing them so as to give the most satisfactory results considering the purposes for which the rooms are to be used. A correspondent recently asking as to the best method for finishing oak, maple and other floors in the natural so that the wood will not darken, and if there is any way of bleaching hardwood floors that have been treated with linseed oil and become very dark with age, *The Painters' Magazine* suggested the following treatment:

Oak floors require a filler, if good smooth finish is desired in the natural, no matter what material is used. Maple does not require filling. For oak floors a good mineral paste filler and two light coats of grain alcohol shellac varnish, or in place of the latter, waxing frequently with a good floor wax will keep the floor from darkening. Ordinary floor varnishes or linseed oil will produce darkening. Mineral oils tend less to darkening of wood than linseed oil, but are not to be thought of for use in dwelling houses or public halls on floors, because of the tendency to soil the ladies' dresses. For maple floors three coats of grain alcohol

remover and then treat the wood with a strong concentrated solution of oxalic acid or by the use of bleaching powder. The use of the last named, however, is liable to be injurious to the health of the operator, and we would not recommend its use. The oxalic acid solution, while poisonous, is harmless when used with care.



Age of Progress

Pierre de Campe, who was calcimining the Bradley kitchen, was so excessively slow that his discouraged employers began to fear that the deliberate Frenchman meant to end his days under their roof.

"Do you think," asked Mrs. Bradley, desperately, "that you'll be done by five o'clock, so we can cook dinner?"

"Madame," replied Pierre, pausing to gesticulate with his brush, "maybe you have hear som' peop' say dat ris ees de age of progress. Oui, madame, eet ees de age of too much progress. Evairew'ere hon dose states of America dere ees too much 'urry, 'urry, 'urry. Evairew'ere eet ees 'Make 'aste, make 'aste! Dere ees no rippose—no taim for do notting good. Evairew'ere I am come wit' ma pail, ma brush, ma scaffold, eet ees not 'Pierre, how good you can do dose vork?' but 'Pierre, how queek you ees got t'rough?' Parbleu! Biffore a man ees get one leg een hees hoovair-hall some'bod' ees hask heem, 'Say, meester, how soon you go vay?'"—*Youth's Companion*.

Planing Stuff Square

VALUABLE SUGGESTIONS AND SOME SOUND ADVICE FOR OUR YOUNGER SUBSCRIBERS WHO WANT TO IMPROVE THEIR HAND PLANING FORM

By W. D. Graves

THE question by Clarence H. Taylor, in the July AMERICAN CARPENTER AND BUILDER, concerning square planing, is well calculated to turn an old timer into a current of volubility which the editor would feel obliged to dam (I near put a final "n" on that dam) with his blue pencil. Yet, old timer though I be, I will try to answer Mr. Taylor's question without undue volubility; though I must indulge in a word of praise for the young man who does not fear to ask questions.

Mr. Taylor will make a good mechanic, and there is nothing better in this world than a man who excels in his chosen calling. Generally speaking, the day of the hand workman is past, but the man who can, on occasion, do a good job with a hand plane, will be in demand as long as wood holds out.

If Mr. Taylor will find a man who knows how to handle a plane well, follow his advice as to how to hold the tool, and practice, *practice*, **PRACTICE**, he will soon be able to do the job satisfactorily—satisfactorily to others, but, I fondly hope, never quite satisfactorily to himself. One can be shown how so much better than he can be told how, that Mr. Taylor (and others like him—of whom I hope there are many) should take such instruction as I give only as supplementary to that of some one who can show him. Nor should he follow too closely any one mechanic, but learn from as many as possible.

While the matter of handling a plane efficiently is very largely a matter of practice, success depends almost wholly on the beginning of that practice rightly. There are thousands of workmen who are unable to perform properly some simple mechanical operations because, in their beginning, they acquired some habit in holding the tool which rendered its dexterous manipulation impossible to them. It is the custom to say that such men did not have the knack born in them; but the fact is that they either did not have, or did not accept and assimilate, proper advice at the beginning. Thus they acquired habits which they have been unable to unlearn.

Though each workman has some slight personal mannerisms in the way of grasping tools which are immaterial, some of those which may seem immaterial to the novice are quite important. If the young man observes any mannerisms which seem immaterial or improper to him he should notice particularly whether they are common to the *best* workmen he knows. If they are he may justly conclude that they are worth copying. If they are mere personal peculiarities, or if they are common only to inferior workmen, he should avoid them; for they will surely cause him much trouble if copied. He is sure to acquire personal peculiarities more than enough if he copies only the

best workmen to the best of his knowledge and ability.

In using the hand plane one should first acquire the habit of holding it parallel with the line of work—pointing straight ahead. The habit of holding it diagonally is easily acquired, very hard to get rid of, and renders good work impossible. The grip on the handle should not be nervously rigid, as a child grips a pen; but firm and steady, yet flexible. If the forward end of the plane needs guidance, as it will in the case of the larger ones, let the grip of the left hand be springy rather than vise-like. There is the same difference between the grip of a novice and that of an expert, on the handles of a plane, that there is between the grips of novice and expert on the handles of a bicycle.

I was taught, before the day of iron planes, that the position of the left hand should be with the thumb on top, while the fingers rested against and extended down the left side. In the case of molding tools, which were in common use in those days, the thumb extended across the top and bent over the right top corner. This gave a much more flexible and easily controlled grip than grasping the end or top of the plane with the whole hand. With the iron planes of today just this grip is impracticable; but the handle on the front end tends to allow sufficient elasticity to a whole hand grip. The main idea is to so grasp the tool that, when it is in the upright, or medium position, the muscles shall be unstrained and capable of allowing the tool to tilt either way with equal ease. This may seem contradictory when tilting is not desired; but it is not so. It simply is that, when the tool is in the correct position, the muscles are in the position of least strain. Any special exertion to keep the plane from tilting *from* one is almost sure to lead to its tilting *toward* one, and vice versa.

One must be careful, too, not to push the plane beyond the limit of easy reach. Such action is almost sure to cause the plane to tilt; and, if the piece of work is more than three or four feet long, one must walk along with the tool, rather than attempt to reach too far. Have the bench low enough—not too low—and stand near enough to the work, so that your position will be easy and unstrained. As with all skilled work, the beginner is very apt to grip too tightly, and do bad work through excessive nerve tension; so a repeated word of caution against it will not be misplaced. Doing the work easily and without undue strain is not laziness, but competency.

The rest is a matter of practice. Use the try-square frequently—that is what a *try*-square is for—and you will eventually get so that you can pretty nearly tell by the feel when your work is square. Don't hurry. The best work is incompatible with much speed. One

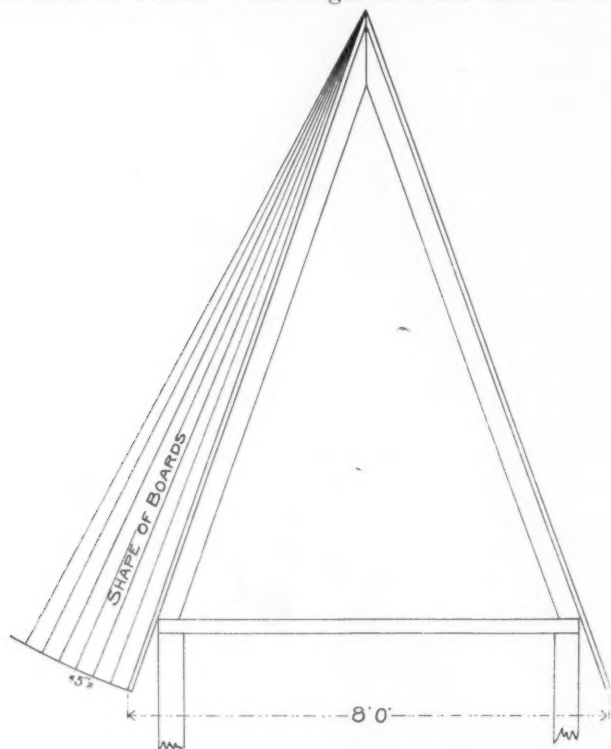
who desires to do good hand work must give little thought to speed till he has acquired *well-grounded* confidence in his ability—not the confidence of youth, but that of one who has “produced the goods” time after time. While mechanics may be born rather than made, that which is born in one is mainly the ability and patience to take pains. The plodder who takes pride in doing good work, without thought of the time consumed in doing it, is apt, eventually, to beat the “Heaven born mechanic,” both in quality and speed. Seek instruction from all sources, but follow only that which seems good. Don’t originate new methods till you thoroughly understand the old. By that time you probably won’t see the need of any change—but so much the better.

It has been presumed that you know how to keep your plane in order, which is the first requisite, and perhaps the whole of my advice might well have been given in a single sentence. Learn how to hold your plane; then practice, and practice only will do the rest. This is really all there is to it; but I trust that you will look leniently on the verbosity of age—I know that you would if you could realize the size of the flood gates of recollection opened by the question.



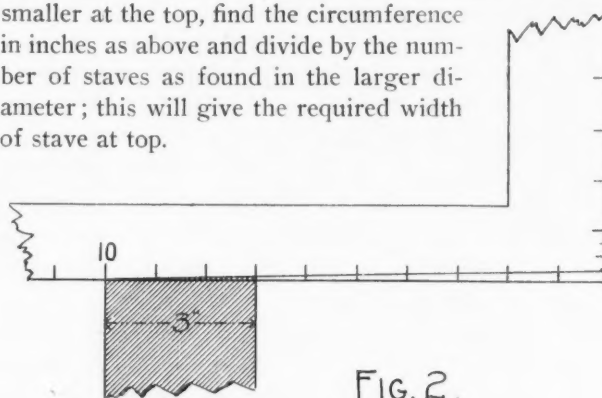
Bevels and Cuts in Circular Work

To find the shape of roof boards for a conical tower, multiply the diameter by 3.1416 (or roughly, $3\frac{1}{7}$) and reduce to inches. Dividing this by the width of the larger end of the board will give the required number of boards. The length is found same as for



the common rafter. Thus a roof of the dimensions as shown in Fig. 1 with boards 5 inches wide would take $60\frac{1}{3}$ boards.

The same principle may be applied in tank building by multiplying the diameter of the tank by 3.1416, which gives the circumference in feet. Reducing to inches and dividing by the desired width of the stave, gives the number required. If the tank is to be smaller at the top, find the circumference in inches as above and divide by the number of staves as found in the larger diameter; this will give the required width of stave at top.



The bevel of the stave may be found as shown in Fig. 2. For example, take a tank 20 feet in diameter and to have staves 5 inches wide. The radius is therefore 10 feet, which should be on the tongue, as shown in the diagram; then take half as many twelfths of an inch on the blade as the stave is inches in width. A line from 10 on the tongue, passing at $2\frac{1}{2}$ twelfths on the blade gives the bevel. Now, setting off the full thickness of the stave, as shown, the required bevel is obtained. The stave may be any thickness desired.



To Prevent Screen Door From Sagging

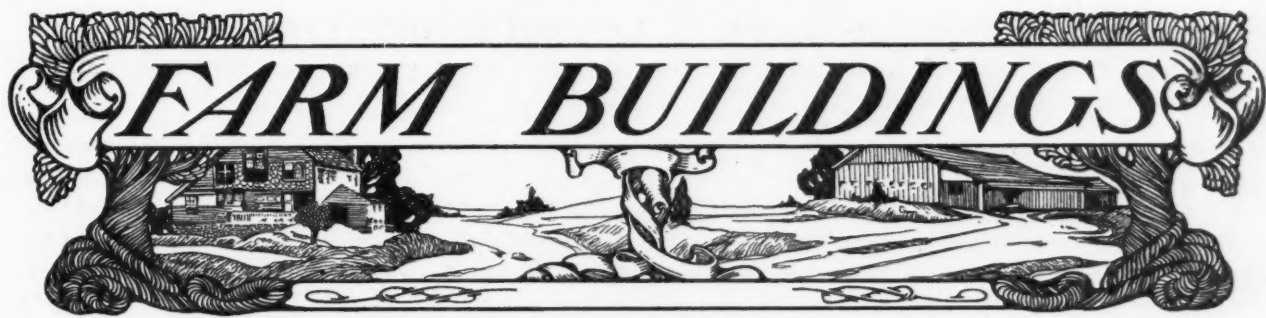
The average screen door does not have the necessary braces to keep the frame square, especially if a heavy spring or weight is used for closing the door. The simple application of a wire brace held in place by two round-headed wood screws will often be satisfactory, says *Popular Mechanics*, to prevent a sag in a light frame door.

Common picture frame wire can be used, but heavy wire is much better. It will be necessary to twist a loop on each end of the picture frame wire for the screws. Place a $\frac{1}{4}$ -inch wedge under the corner of the door opposite the hinges and set the screw at this corner first; raise the wire to the position halfway up on the inside stile and set the other screw. When the wedge is removed, the door will swing free with plenty of clearance.



Turning Oil From a Square Can

A great many oil cans in which oil is sold are square with the opening at the side or corner. The contents of such a can may be poured out without wasting a drop, if the can is held properly with the opening at the top. This will permit the can to be tipped so the oil will flow without a gurgle. If the can is held so the opening will be at the lower corner the oil will try to follow down the outside of the can and cause considerable waste.



Square Barn for Horses and Cattle.

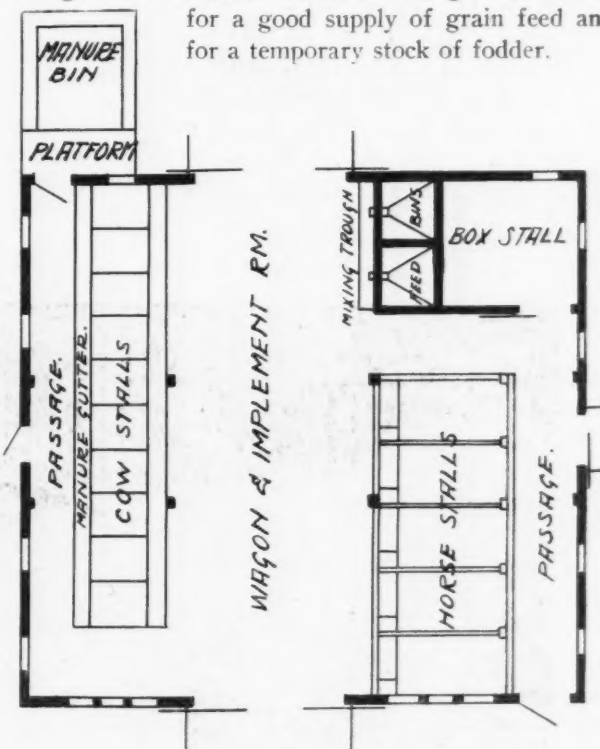
PLANS FOR A CONVENIENTLY ARRANGED BARN OF SMALL SIZE INTENDED TO STABLE ECONOMICALLY FIVE HORSES AND TEN COWS

THE accompanying plans show a barn of a design that will appeal to many farmers as being just about what they want. It is intended for a "horse barn," that is, the barn adjacent to the house in which are stabled the family and work horses, and in some cases the small herd of cows.

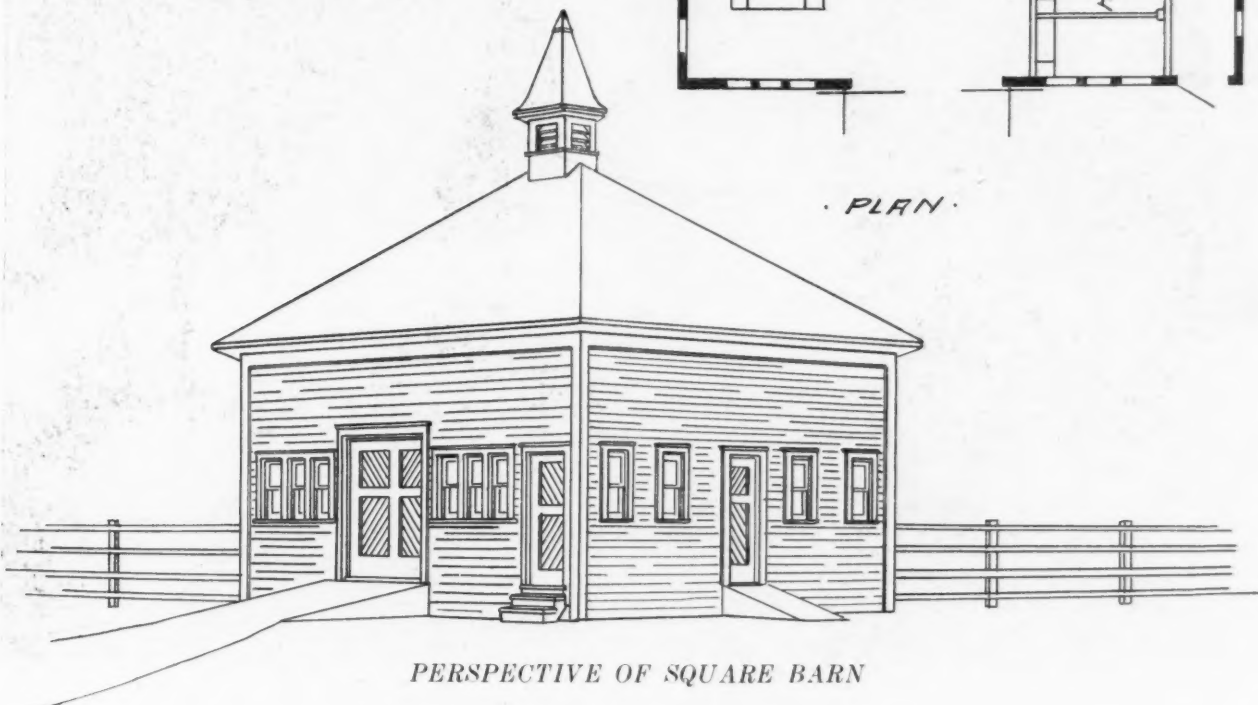
This barn seems desirable for such a use as it is neat and trim in appearance and would not detract from the general looks of things about the house. Moreover, it is an exceedingly practical and economical design. The outline is square, and there is nothing about the simple hip roof to be expensive. True, there are more windows in this than in the ordinary horse barn, but they will be found to be a very good investment because of the added comfort in taking care of the stock and the added ease with which the stable can be kept in a sanitary condition. This last is doubly important, too, wherever dairy cows are to be kept.

The floor plan sketch gives a good idea of the general arrangement of this barn. There is a driveway

through the middle from front to back, with the stalls arranged on each side. There is storage room above for a good supply of grain feed and for a temporary stock of fodder.



PLAN



Contractors Use Automobiles

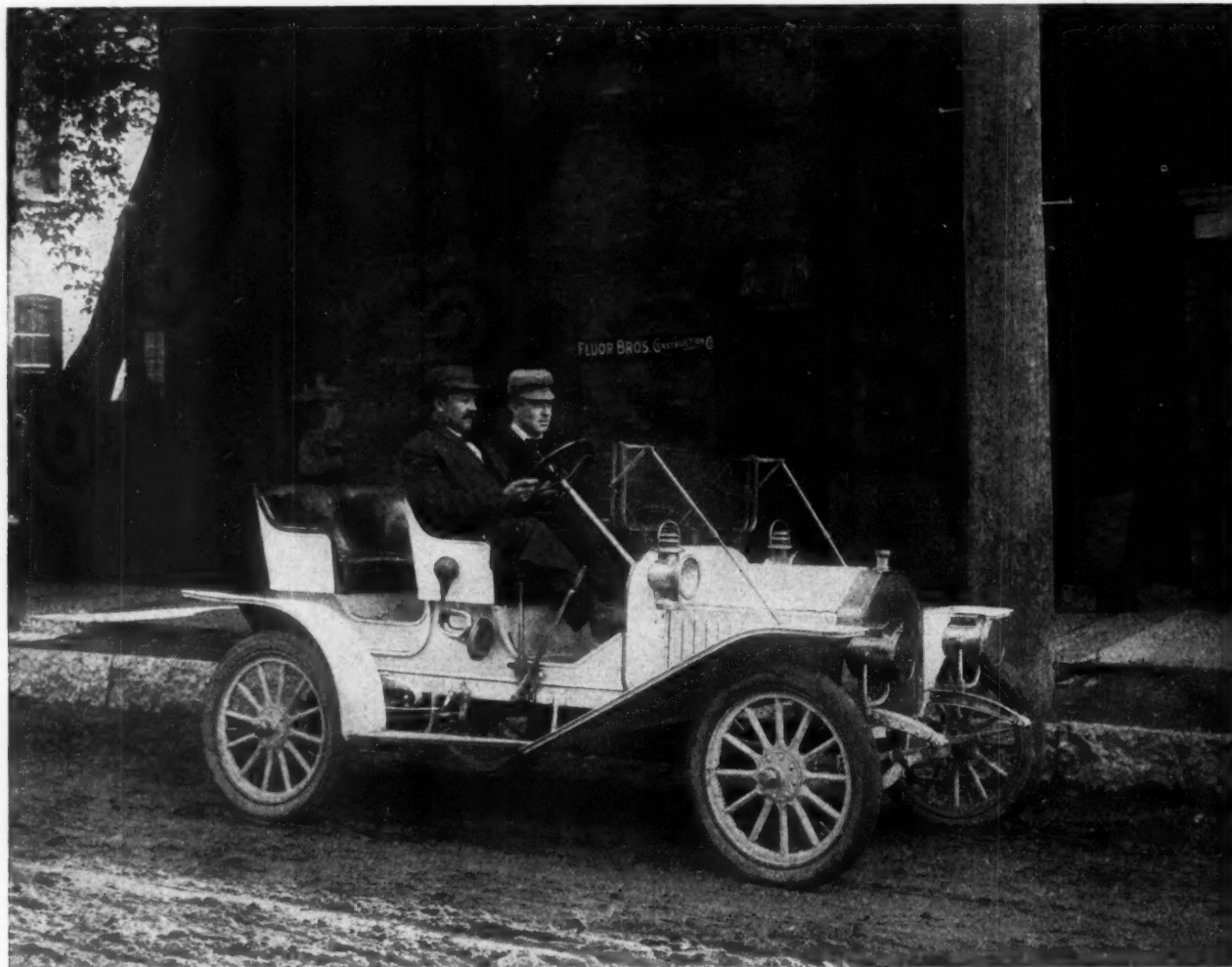
LEADING CONTRACTORS AND BUILDERS OF OSHKOSH, WIS., MAKE THEIR DAILY VISITS TO THEIR SEVERAL JOBS IN MOTOR CARS

TIME was when the live contractor with any amount of work on his hands had to hustle to get around to all the jobs in a single day. With a dozen buildings in as many parts of the town to look after it was no holiday excursion to get out at the first break of day, no easy thing to be pleasant and affable at breakfast, and there were no thoughts of a picnic when on a frosty morning he had to get around to twelve places at once. Before the ground could be covered there was danger that some cheerful idiot might take a piece of interior trim to use as a scaffold brace at that house in the second ward, or the men at the church job might be loafing.

The automobile has solved the problem for the contractor. In his little runabout he can cover all his jobs early in the day without trouble. Of course, in many cases, a horse is used to get around town, but in Oshkosh, Wis., the city we are to tell you about, all the contractors, or at least the leading ones, use automobiles.

At the outset it will interest you to know that each one of these men is a member of the AMERICAN CARPENTER AND BUILDER's big family of subscribers. And we might remark that what is true of the contractors of Oshkosh, Wis., is true also of other progressive towns where subscribers of the AMERICAN CARPENTER AND BUILDER have adopted modern methods and conveniences.

Oshkosh, Wis., where these contractors flit about the streets daily in their machines, is a thriving manufacturing city with well paved thoroughfares. It is growing steadily and the contractors are making things hum. August Pitz has a car that leads a double life. It is a five-passenger car and on Sundays Mr. Pitz takes his family to church in it or on excursions into the country. Then on Monday morning he removes the touring car body and replaces it with a truck body, which he uses during the week for the delivery of sash, doors, moldings and other materials he requires at his various jobs. If the family wants



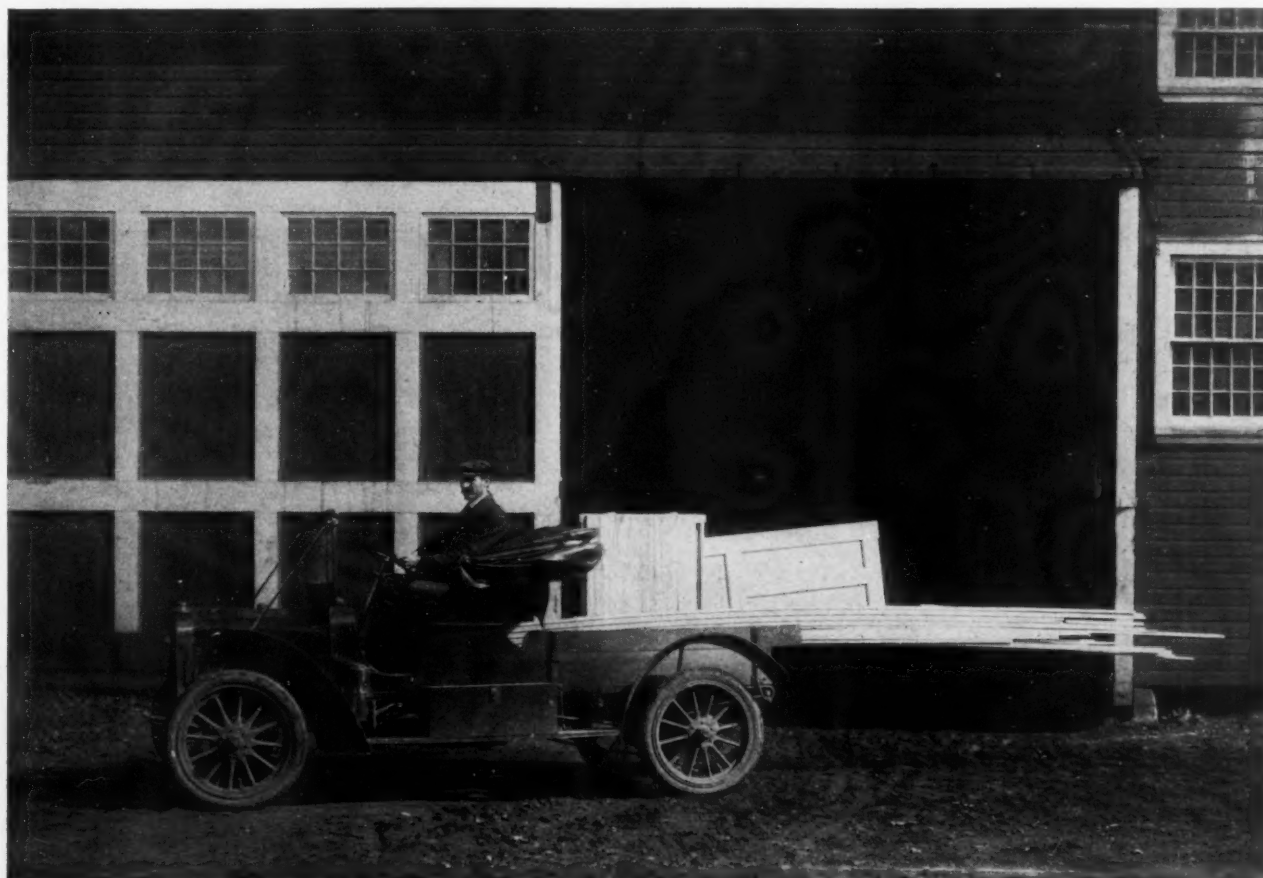
J. S. Fluor and His Brother Walter in Their Car

the car at any time during the week it is an easy matter to take off the truck body and put on the regular one. The car behaves well at all times, whether racing around the fine residence streets in its good clothes or hauling materials in its work dress. It has good habits and seldom goes out nights.

"I don't see how I ever got along without this automobile," Mr. Pitz said. "I save time and get around

the accident. Mr. Fluor jumped out, picked up the lifeless body of the dog and was examining it when the farmer came up.

"Now this is too bad," Mr. Fluor said. "Here you were going hunting and I have killed your dog. I assure you I am sorry. Here is \$5." And he handed the farmer a \$5 bill, which he took. "What were you going to shoot, ducks?"



August Pitz in His Auto Truck

everywhere with the best possible speed." And away he went at a fast clip with a load of sash and other materials that would have made a team tug and pull.

And then there is J. S. Fluor, of the Fluor Construction Company. Mr. Fluor used to get around town as fast as anyone, but since he bought his automobile he can make the rounds in an hour or two, get back to his office and have time to read the AMERICAN CARPENTER AND BUILDER through before dinner. He is a very busy man and the busier he gets the broader grows his smile.

They tell a story about Mr. Fluor in Oshkosh that shows the good heart of the man. Not long after he bought his car he was speeding along a road near Lake Winnebago when he saw a farmer coming up the road carrying a gun over his shoulder. A small dog was a little in advance of the farmer. The dog got in the way of the Fluor automobile and was run over, sad to relate, despite the effort of the contractor to avoid

"Not exactly," the farmer said. "I was on my way down to the lake to shoot that old dog. She had the mange."

On the right front wheel of Mr. Fluor's automobile there is a slight abrasion of the paint on one of the spokes, made by the dog's teeth when the machine passed over the poor critter. The truth of the story seems to be unassailable. Mr. Fluor has an automobile, there is a cratch on one of the spokes of the right front wheel, and there is such a lake as Lake Winnebago. So there you are.

C. R. Meyer and his son, Edward H. Meyer, of the stone mason contracting firm of C. R. Meyer and Son, have each an automobile, and they are enthusiastic motorists. They are great travelers, and although they have not accomplished as much as Cook or Peary, they have gone quite a distance east. Neither one would be without his runabout a minute. Mr. Meyer the elder said:

"This little car of mine beats the old nag. I used to love my horse, but, Oh, you auto," and he patted the machine's magneto.

Another of the leading contractors who gets around to his jobs in a machine is J. T. Raycraft, whom everybody around Oshkosh knows. Not content with an every-day machine, Mr. Raycraft has also a big touring car which dazzles the eyes of the people on Sundays. But during the week days Mr. Raycraft and his runabout are inseparable companions. "You see," he said, "I'm here at this building now, and all I have to do is to step into this little car, sit down in a soft seat, push a lever or two, and I'm at the next place almost while I am telling you about it. Going to put this picture in the AMERICAN CARPENTER AND BUILDER, eh? Gee, let me get my hat on straight before you snay that camera—there."

Oshkosh was selected as the typical town in which the leading contractors, subscribers of the AMERICAN CARPENTER AND BUILDER, use automobiles in their daily rounds. The city is only like hundreds of other places in which the successful contractors, readers of this magazine, are also owners of automobiles. The

only inference is, according to the logicians, if you are a contractor and want an automobile, you must first be a subscriber to this magazine. But, seriously, the life of the contractor is not what it used to be. He has quick transportation facilities and thereby is able to give quicker execution to his work.

One needs no better evidence of the general prosperity among contractors than the fact that they are buyers of automobiles. And it is the better class of machines that they are buying, too. They are men of discriminating taste, and as a rule know a good machine when they see it. In many towns and cities auto trucks are coming into use for the delivery of the heavier materials. The users of them find that quicker deliveries can be made by them than by using horses. There is economy of time and no breakdowns of a serious character where auto trucks are employed. In the matter of hill climbing, too, the auto truck will go easily up a hill with a heavy load that a team could not negotiate at all.

While for general purposes the contractor may not feel inclined to invest for a delivery machine alone, the touring car that can be adapted for the purpose



J. T. Raycraft in His Runabout



Father and Son Each an Automobile Owner. C. R. Meyer on the Right; His Son, E. H., on the Left

seems to solve the problem, as in the case of Mr. Pitz at Oshkosh.

Does Steel Imbedded in Concrete Rust?

The effect of concrete in preventing the rusting of steel imbedded in it has been the subject of so much controversy that the light thrown on the matter by the electrolytic theory of corrosion is instructive. According to this theory, iron can pass into solution only when an equivalent amount of hydrogen passes from the ionic to the gaseous state, and if the hydrogen concentration is reduced the rusting of the iron will be diminished. This is achieved by adding a strong alkali to the water which is in contact with the steel. According to Dr. W. H. Walker, the caustic lime given off by Portland cement in setting and hardening has this action, and iron or steel imbedded in concrete will not rust so long as this caustic lime is present. Unfortunately it is soluble in water, and it is therefore desirable to make the concrete containing steel reinforcement very dense since by so doing the protective properties of the concrete will be maintained for the longest time. If the caustic lime is once dissolved out of the concrete, the metal will surely rust, according to Dr. Walker. This theory is completely in accord with experience, which has shown that dense concrete will protect steel, even when it was rusted before being imbedded in the material, while in porous concrete steel will sometimes rust rapidly.

New Secretary Elected

The board of directors of the Northwestern Cement Products Association unanimously elected A. E. Pfiffner, St. Paul, Minn., as secretary to succeed J. C. Van Doorn, Minneapolis, resigned. A vote of thanks was extended to Mr. Van Doorn for the good work he has done in behalf of the association, and for the persistent efforts that he made during the past year in its interests. Everyone regrets that press of business made it impossible for him to continue in the office of secretary; still the association is extremely fortunate in Mr. Pfiffner's election to the office—he is extremely well adapted to take up the duties dropped by Mr. Van Doorn, as he is an old-time concrete machinery man and has a vital interest in its success. Mr. Pfiffner was born in Grundy county, Iowa, thirty-nine years ago. After graduating from high school he entered the banking business, and later embarked in the real estate business. Five years ago, he, together with his father, bought an interest in the Cement Tile Machinery Company, later they disposed of their holding and organized the St. Paul Cement Machinery Company. Mr. Pfiffner has a host of warm friends who feel confident that the secretaryship of the Northwestern Cement Products Association is in the right hands for its continuous growth and prosperity.

Modern Water Supply Systems

THE USE OF INDIVIDUAL PRESSURE SYSTEMS TO SOLVE THE WATER SUPPLY PROBLEM IN SMALL TOWNS AND RURAL DISTRICTS

By B. Muhlhauser

DURING the last few years great strides have been made in the methods of storing and delivering water under pressure. It is a notable fact that previous to the last eight or ten years, practically little attention had been paid to the necessity of offering more modern devices for pumping and storing water. Every reader of *AMERICAN CARPENTER AND BUILDER* knows about elevated and attic tanks. Elevated tanks have been used for centuries. They were never considered particularly satisfactory, but they were generally used because no better way was known. They called for the simple process of pumping water up in order to get it down again. As children we were taught that "what goes up must come

warm and stagnant under the rays of the hot summer sun. In the winter, it will freeze. Elevated tanks have been known to collapse; and a leaky elevated tank is not an uncommon sight. The attic tank is a constant menace in any household. This great weight of water may crack the plastering; and if the tank leaks—as it is pretty sure to do some time, the house will be flooded. Then, the pressure from an attic tank is not enough to insure sanitary water supply service.

What is the improvement? It is the pneumatic tank. This tank is buried in the ground, or located in the cellar. Water from it is delivered by air pressure. Water from any source is pumped into the

pneumatic tank. The tank is air tight; and as you pump water into it, you compress the air. This compressed air forces the water out again to the various connections. The tank is made of steel plates. It rests on solid ground where it can do no damage. It is thoroughly protected from extremes in temperature—it cannot leak, freeze, overflow or collapse.

Of course, it will be readily seen that this pneumatic tank must be perfect. If it leaks air, the air cushion will be lost and there will be no air pressure. That is why it is advisable to



Lay-out of Modern Water Supply System Installed in Residence

down"; and, since the time of Adam that theory has been applied by people who wanted any amount of water delivered to certain fixed places.

So, while remarkable improvements were being made in devices for lighting, for heating, and in other fields, practically nothing was done to provide better water supply service. That's peculiar, too, when you stop to think about it, because of the three conveniences—light, heat and water—water is the most important. Light is only required at night and heat is only necessary during the cold weather. Water is required day and night, year in and year out, during all seasons.

Elevated and attic tanks have never been entirely satisfactory. The elevated tank is exposed to all extremes in weather conditions. Water is apt to become

guard against cheap pneumatic tanks. The maker of a reliable air pressure tank tests it to a pressure of 125 pounds and guarantees it to be good for a working pressure of 75 pounds.

Along with the perfection of the pneumatic tank came many improvements in pumping machinery. It was found that many pumps which were all right for elevated tanks were hardly suited to air pressure service. Pumps which will pump air as well as water were necessary. This is because a little air must be pumped into the tank occasionally, to replace absorption. The originators of the pneumatic tank were quick to see the necessity for building a new line of pumping machinery to be used with their water supply systems, and remarkable strides have been made in this direction.

Speaking of this new pumping machinery for pneumatic tank service, you can put this down as a definite fact: While any and every pumping outfit is not good for pneumatic service, a pump which is built for the exacting requirements of air pressure service will give good service under any conditions.

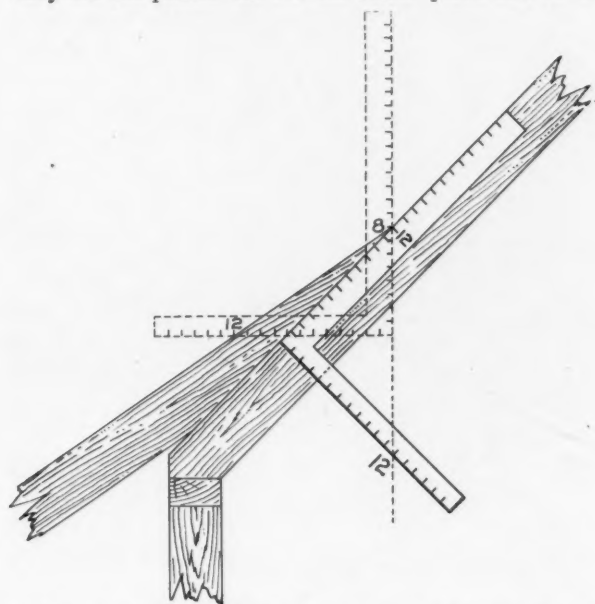
The satisfaction given by these water systems has not only developed a new business, but has stimulated other lines. When people put in these high-grade water supply plants, they naturally call for plumbing fixtures and sewage disposal outfits. Hot water and steam heating plants are easily possible with pneumatic tank outfits; and so the heating business has been benefited.

You can depend on an air pressure water supply system to be a vast improvement over the old-fashioned methods. But, be very careful to buy from a reliable firm which can show a good record. No one wants to be experimented upon. But you will be pretty safe in putting your water supply problem up to any firm which has furnished several thousand successful water systems.

Where Two Roofs Join

Here is a little problem that often comes up in roof framing. It is the cut for joining one pitch to that of another, as shown in the diagram, and is as follows:

Lay off the plumb cut for the lesser pitch and to the



bevel thus obtained, apply the square with the figures that give the pitch it joins. In the illustration is shown a $1/3$ pitch joining a $1/2$ pitch; 12 to 8 give the plumb cut for the $1/3$ pitch and 12 and 12 the same for the $1/2$ pitch. Therefore 12 and 12 applied to the cut of 12 and 8 will give the required angle.

The approximate length of a belt to run over two pulleys may be obtained by adding the diameters of the two pulleys and multiplying by 1.5625, and adding the result to twice the distance between the centers of the shaft.

Valuable Table for Estimators

The following table of short cuts are in most frequent use for "taking off" figures and abstracts. To the estimator, who is making up a bid, any abbreviation of articles on quantity is an aid:

"	Inches.	L. W.	Limewhite.
'	Feet.	M. G.	Make good.
1 ce	Once.	Mold.	Molded.
2 ce	Twice.	No.	Number.
3 ce	Thrice.	O. E. S.	One edged shot.
O	1" diameter.	O. G.	Ogee.
A. B.	As before.	O. S.	One side.
1 B.	1 brick.	P.	Prime.
Bd. & Pt.	Bed and point.	P. C.	Prime cost.
B. & J.	Bed and joint.	P. F.	Plain face.
B. S.	Both sides.	P. F. & R.	Part fill and ram.
B. W. G.	Birmingham wire gauge.	P. M.	Purpose made.
C. I.	Cast Iron.	Pl. Cor.	Plaster cornice.
C. and P.	Cut and pin.	Pt. Cmt.	Portland cement.
Ch.	Chimney.	R.	Render.
Cir.	Circular.	R. S.	Render and set.
Cmt.	Cement.	R. F. & R.	Return fill and ram.
D. H.	Double hung.	R. F. & S.	Render float and set.
D. P. C.	Damp-proof course.	R. C.	Rough cutting.
Ddt.	Deduct.	R. I.	Rolled iron.
Dia.	Diameter.	R. W. P.	Rainwater pipe.
Dist.	Distemper.	R. O. & P.	Rake out and point.
Ex.	Excavator.	Reb.	Rebated.
E. O.	Extra only.	Rel. Arch.	Relieving arch.
F.	Flatting.	Ro.	Rough.
F. C.	Fair cut.	Ro. Sk.	Rough Sunk.
F. and C.	Fill and cart away.	Sk.	Sunk.
F. E.	Feather edge.	S. D.	Screw down.
F. & R.	Fill and ram.	S. L.	Short length.
Foots.	Footings.	Seg.	Segmental.
Frd.	Framed.	S.	Shewback.
G.	Grain.	Sq.	Square.
Gald.	Galvanized.	Sq. Q.	Squint quoin.
H. B. S.	Herring-bone strutting.	St.	Stop.
H. P.	High pressure.	Sup.	Superficial.
K.	Knot.	V.	Varnish.
Lab.	Labor.	W. B.	Wood brick.
L. P.	Lath and plaster.	W. I.	Wrought iron.
L. P. & S.	Lath, Plaster and Set.	W. O. S.	Wrought one side.
L. P. F. & S.	Lath and plaster float and set.	Wrot.	Wrought.
		X Ton	Cross tongue.

Meaning What?

Hostess: "It's beginning to rain. You'll get wet. I think you'd better stay to dinner."

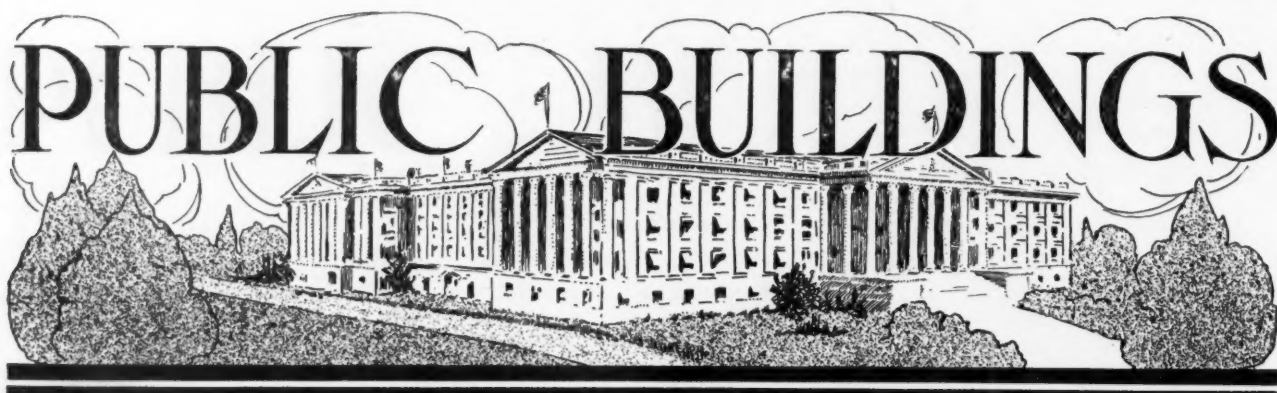
Departing Guest: "Oh, dear, no! It's not raining so badly as all that."

No Excuse

An evangelist was exhorting his hearers to flee from the wrath to come. "I warn you," he thundered, "that there will be weeping and wailing and gnashing of teeth!"

At this moment an old woman in the gallery stood up. "Sir," she shouted, "I have no teeth."

"Madam," returned the evangelist, severely, "teeth will be provided."—*Success*.



Design for a Small Church

PERSPECTIVE AND PLAN OF AN ATTRACTIVE WELL PLANNED CATHOLIC CHURCH BUILDING OF SMALL SIZE

WE ARE showing this month a church design of much dignity and character. It is arranged along the approved lines for a Catholic church, and is of a very desirable size for a small parish. G. W. Ashby, the architect, speaks of this design as a revival of the Italian Romanesque. It is

benefited by a prize contest that will show many of the great possibilities in the field of building construction, to which the concrete block can be adapted, the Century Cement Machine Company of Rochester N. Y., manufacturers of Hercules Concrete Block Machines, have inaugurated a novel method of dem-



Small Catholic Church of Dignified and Attractive Design

considered an especially appropriate design for a Catholic church.

The material of construction is to be red brick for the walls, trimmings of Bedford stone and roof of slate.



Prizes for Cement Block Pictures

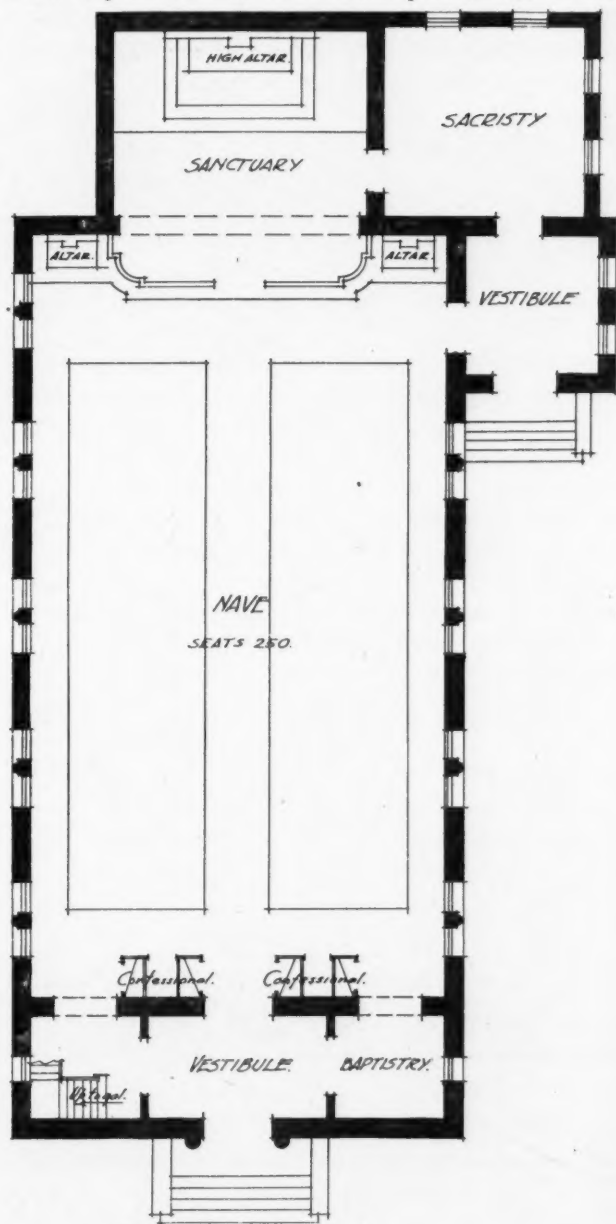
Believing that the building industry will be greatly

onstrating the possibilities of this great building material.

The rapid and wonderful growth of this industry has resulted in the erection of many inferior types of buildings, due to the use of either poor materials, unreliable machinery, lack of experience, or other similar causes.

This is offset, however, by so many examples of

high-class concrete block construction that they deserve to be illustrated and exhibited publicly, and in this manner help to offset any uncertainty that might exist in the minds of those unfamiliar with the artistic, practical and commercial possibilities of this



Main Floor Plan of Church

great building material. Any existing prejudice is rapidly dying out, due in a great measure to the efforts of wide-awake, progressive builders, whose work speaks for itself and demonstrates what can be done with the concrete block when properly made and handled.

The endeavor to bring before the world illustrations of these finer types of building construction made possible by the use of Hercules machines and the desire to upbuild and further the interests of the industry in general prompts the Century Cement Machine Company to offer cash prizes to the five best examples of concrete block construction made by use of Hercules machines, as follows:

First prize.....\$100.00 cash
Second prize..... 75.00 cash
Third prize..... 50.00 cash
Fourth prize..... 25.00 cash
Fifth prize..... 10.00 cash

These prizes will be awarded at the meeting of the National Association of Cement Users, to be held in Chicago, February 18th to 26th, inclusive. Prizes will be awarded by a committee composed of one representative from each of the following trade publications:

AMERICAN CARPENTER AND BUILDER, *CementWorld*, *Concrete*, *Rock Products*, *Cement Age*, *Concrete Age*, *Cement Era*.

These representatives will in turn select a leading architect, also a well-known and competent builder familiar with this type of building construction, together with a representative of one leading Portland cement manufacturing company, all of whom will be added to the committee, and the decision of the majority will determine the winners.

This contest will be open to all users of Hercules Concrete Block Machines and will cover all types of building construction, such as residences, churches, factories, etc. Photographs of residences should be accompanied with floor plans and the cost should also be given wherever possible. All photographs should be 8 by 10 inches in size.

This contest is open to all operators of Hercules machines, so if you have constructed a building of concrete blocks, or if the blocks you have made have been used in the construction of a building that you feel proud of, send a photograph at once with floor plans, cost and your name and address to:

The Century Cement Machine Company, 279-289 St. Paul Street, Rochester, N. Y.

Each entry will be promptly acknowledged by the company and due notice of awards will be given at the convention.

The efforts of the Century Cement Machine Company to further the interests of the concrete block industry in general deserves the hearty co-operation of all interested in this field.

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Impediments

A commuter hired a Swedish carpenter to repair some blinds on the outside of his house. During the day the commuter's wife looked after things, and once or twice came out to see if the man was getting on all right.

"Is there anything you need, Mr. Swenson?" she asked, on her second trip.

The carpenter gulped once or twice, but made no reply. The lady repeated the question.

Again a gulp and no answer.

"Why don't you answer me, sir?" said the lady, indignantly.

The Swede turned and looked down at her gravely.

"My mout is full of screws," he said. "I can not speag undil I svaller some!"—*New York Times*.

A Modern Lumber Yard Building

CONSTRUCTION AND LAY-OUT OF A WELL-PLANNED, CONVENIENTLY ARRANGED BUILDING FOR LUMBER AND BUILDING MATERIAL STOCKS, AND BUILDING MATERIAL YARD

WE HAVE received the accompanying plans from one of our subscribers, Chas. S. Hoyland, contractor, of Winfield, Kan.; and we want to present them here for the benefit of the others

of our "Big Family"—especially those who have occasion to handle and take care of lumber and building material stocks, and also those who are called upon to plan or construct buildings of this kind.

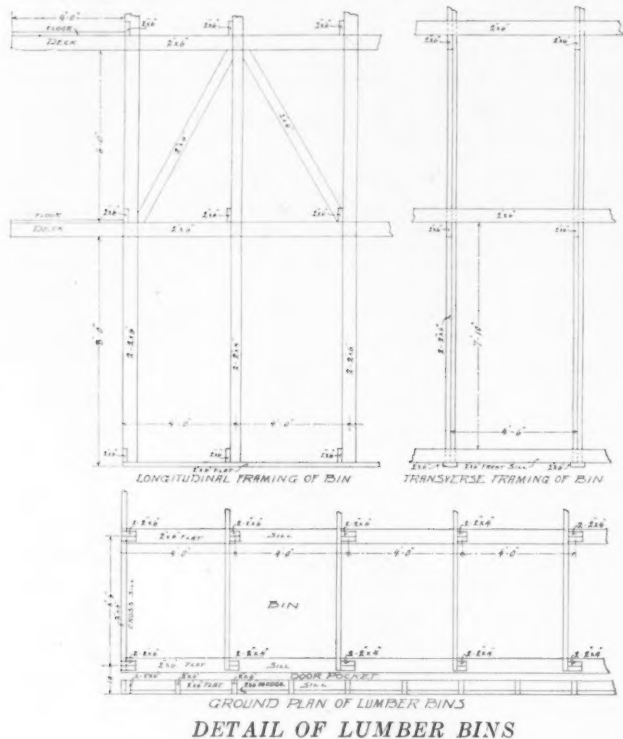
This building was built for Mr. A. H. Doane at Winfield, Kan., by Mr. Hoyland, after plans prepared by himself. It is stated that the building was built with very little deviation from the plans and has proved to be an entire success. The bins for finish lumber, which are closed up tight and keep the stock in the very best of condition, have been especially satisfactory.

The owner, Mr. A. H. Doane, a lumberman of many years' experience, says that if he were to build another building of this class, he would not know how to please himself any better than to copy this one.

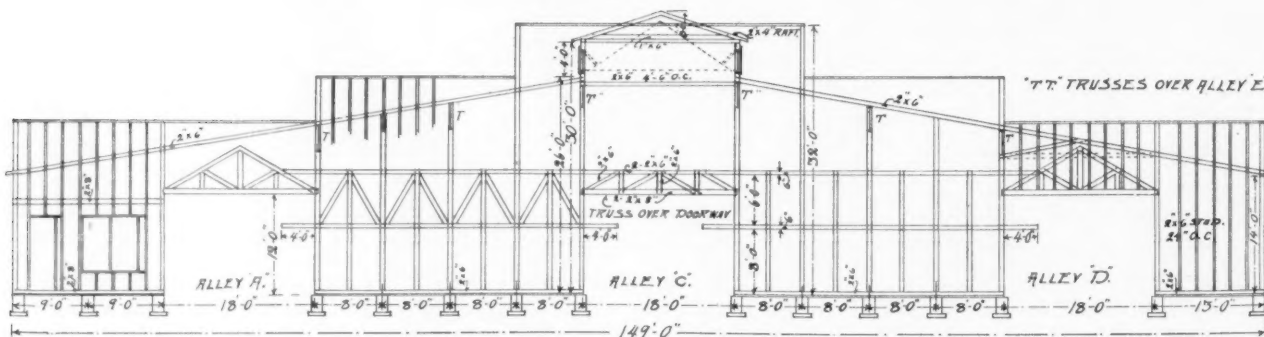
The cost of the building at the time of its erection in 1904 was about \$4,500, and it houses a \$30,000 stock of building material of all kinds in the very best of shape, every article of which is accessible and readily loaded upon wagons. This stock includes a general lumber stock, sash and doors, lime, cement, brick, etc.

The photo shows the usual appearance of things around this yard and is a good indication of the business that is done here.

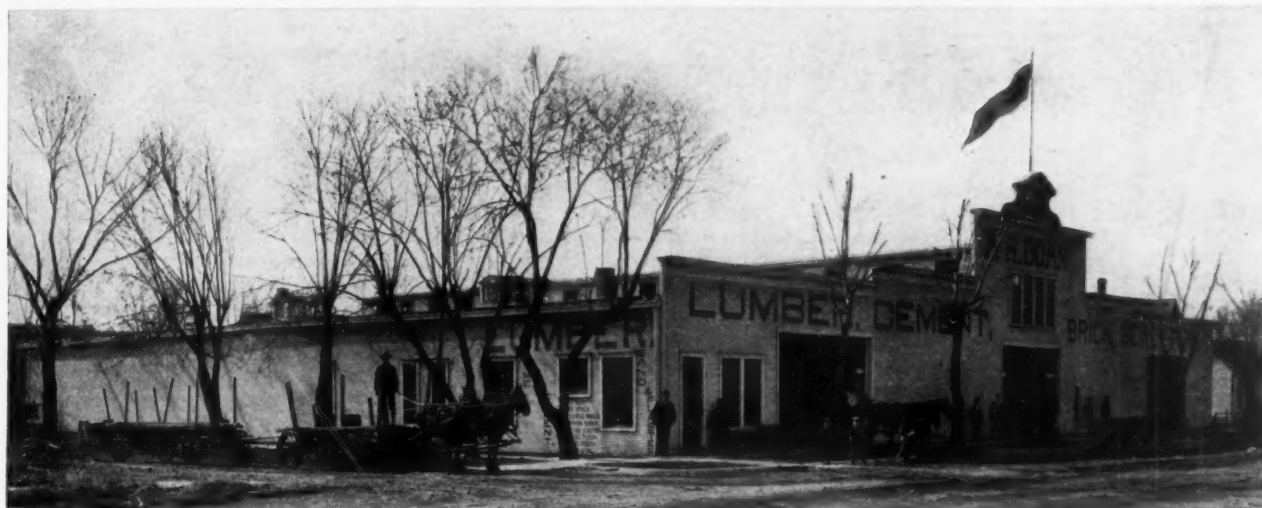
The drawings show the general arrangement of the storage bins and the method of construction.



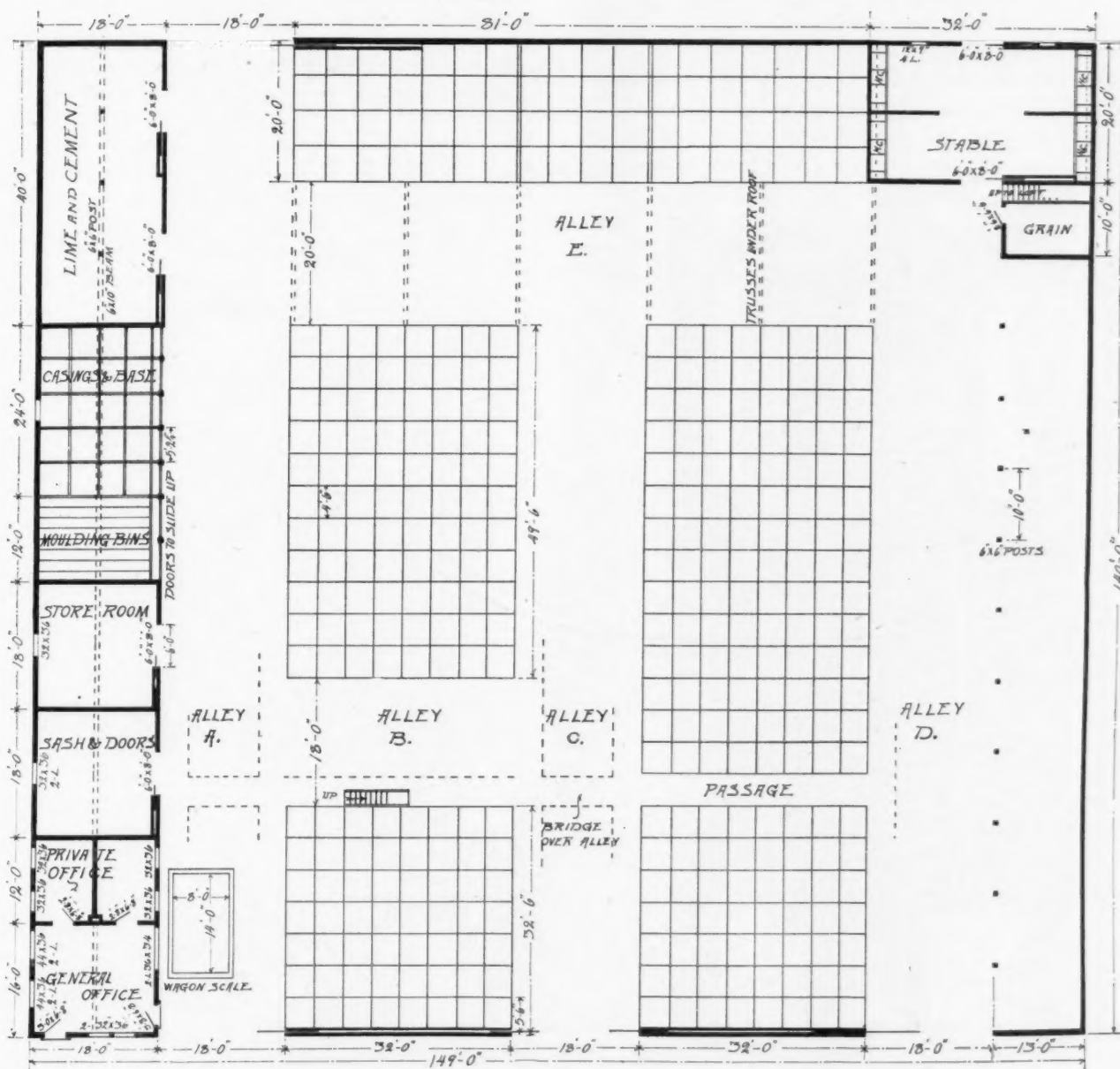
SIDE ELEVATION



FRONT ELEVATION SHOWING CONSTRUCTION



Fine Lumber Yard Building at Winfield, Kansas, Designed and Built by Chas. S. Hoyland





How to Make Hat Rack and Umbrella Stand

TWO VALUABLE PIECES OF HALL FURNITURE VERY EASILY MADE IN THE HOME WORKSHOP—COMPLETE DIRECTIONS FOR CONSTRUCTION AND FINISH

TWO pieces suitable for the hall are described this month—an umbrella stand and a coat and hat rack with mirror. Both of these pieces are the handiwork of an amateur and were made during the spare moments as a means of recreation as well as profit.

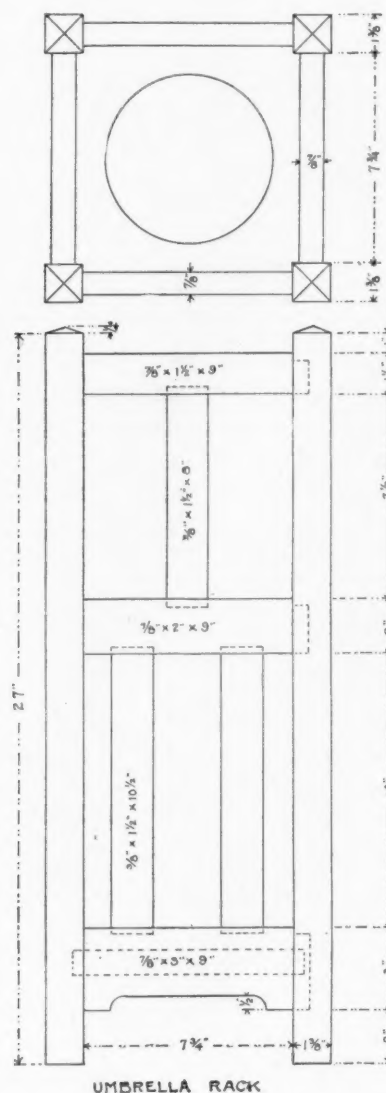
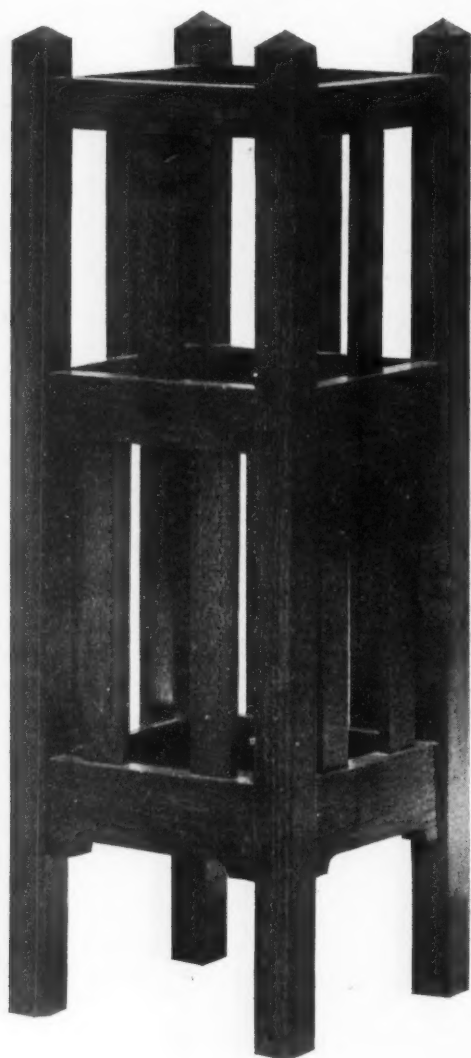
The umbrella stand has a shallow metal pan to catch and hold the drip from wet umbrellas. There will be needed for it the following stock.

Order the lumber quarter-sawn white oak sanded on two or four surfaces according to specifications for planing.

MILL BILL FOR UMBRELLA STAND.

	Thick	Wide	Long	
4 posts	1 3/8	1 3/8	28	S-4-S
4 rails	7/8	3	9	S-4-S
4 rails	7/8	2	9	S-4-S
4 rails	7/8	2	9	S-4-S
4 rails	7/8	1 1/2	9	S-4-S
8 slats	3/8	1 1/2	10 1/2	S-4-S
4 slats	3/8	1 1/2	8	S-4-S
1 bottom board	7/8	9	9	S-2-S
2 cleats	3/4	3/4	9	S-4-S

Begin on the posts by squaring one end of each.



will be of exact size as to width and thickness and should be planed and sandpapered at the mill to those sizes. If no mill is convenient, add sufficient stock, one-quarter of an inch to the width and one-eighth of an inch to the thickness, if the stock is wholly rough. The present specifications allow sufficient length for squaring the ends of the various pieces.

MILL BILL FOR COAT AND HAT RACK.

	Thick	Wide	Long	
2 pieces	1	4	51½	S-4-S
4 pieces	1	2½	17	S-4-S
4 pieces	¾	¾	17	S-4-S

The drawing specifies a glass fourteen by twenty-four inches. There are two ways of setting this glass. It may be set in a rebate made in the edges of the surrounding frame as shown in the drawing. Another way and an easier one, because it saves the rabbeting, is to make the frame inside just the size of the glass, using a small egg-and-dart molding securely nailed to the edges to form the rebate. Small brads should be used for this purpose and the heads puttied over with a putty colored to match the color of the finish. If the second method is used the rails will be three-quarters of an inch longer than the other way. In the stock bill these pieces are ordered long enough for either way.

Begin with the long rails first. Square them to length. Bevel the ends one-quarter of an inch. Next place them side by side on the bench and measure off and square lines across to indicate the ends of the mortises for the tenons of the stiles which enter.

Now measure off and square lines around the stiles for the tenons. Place the pieces on the bench, even the ends and mark across the edges of all at once, then separate the pieces and continue the lines entirely around. Gauge for width and thickness of tenon and then saw them accurately to line.

Rabbet the edges of those pieces which are to receive the glass. Thoroughly clean and put these parts together dry. While in this condition lay off the diagonal pieces by placing them in position and marking their length and slope. Fit them together in a similar manner and dowel the ends. Now glue up the various parts, using glue on the sides of the mortises as well as the tenons and put the whole frame in clamps.

The hooks are to be placed as shown in the photograph. The mirror is not to be set until the finish has been put on the wood. This is a stock size of glass and can be bought in beveled or plain plate. It is to be set in the usual manner, a thin cushion of putty being paced between the glass and the rabbeted part of the edge. The back of the mirror should be covered first with a layer of paper then thin boards fastened to the rebate to prevent the silvering being marred.

A good finish for these pieces is what is known as bog oak. It is very dark in tone, the field and quarterings showing through in a shade of yellowish green. Apply one coat of bog oak water stain and allow it

time to dry. Sand this lightly with 00 sandpaper then apply a second coat of stain diluted about one-half with water. Put on this a thin coat of shellac, sand lightly again and apply a coat of black filler according to the directions on the can. If the pores of the wood were not well filled on the first application of filler put on a second in the same way. Sand this lightly and put on a coat of orange shellac. Again sand lightly and apply two or three coats of some good varnish. Rub the first coats with hair cloth and the last with pulverized pumice stone and crude oil or raw linseed oil. This gives a finish known as egg-shell gloss. If dull finish is wanted substitute water for oil in the last rubbing. For a polished finish the last coat should be rubbed first with pulverized pumice stone and water then with pulverized rotten stone and water.



Origin of the Rod as a Brickwork Measure

The *Builders' Journal* contains the following interesting note:

A correspondent in "Notes and Queries" asked: "When was the rod, which he assumed to be a land measure, first used for brickwork?" and the following week, in the *Builders' Journal*, the retort courteous was made that possibly things might be reversed, and the question put: "When was the rod as a brick measure adapted to land?"

Referring to this, Mr. Harry Hems, of Exeter, makes the following interesting observations:

"The origin of the rod, pole, or perch, as a lineal and superficial measure has been traced to the rod, pole, or goad used to urge and direct a team of oxen pulling a plough. So it came about it was used as a convenient and handy land measure in feudal times by the lords in allotting plots of land for agricultural purposes to the villans and others. One rod wide and forty long built up a quarter of an acre. The furlong—or four poles wide, and the same depth, i. e., forty poles, one acre—was a convenient length for a furrow before turning the plough. Of course, these lengths somewhat varied in different parts of the country where soils and agriculture varied, but gradually the slight variations grew less, and finally the present accepted statutory acre was evolved. Gunter's chain of 66 feet (ten square chains to the acre) was invented by the Rev. Edmund Gunter (1581-1626). He was a professor of astronomy at Gresham College, London, and ingeniously adapted it to facilitate decimal calculations in land measurements.

"The use of the rod—in superficial measurements of brickwork—and lineally in hedges, ditches, and fences, followed as a convenient existing measure. A square rod is 272¼ superficial feet."

An old authority gives the length of the original rod—the ox-goad—as varying from 16 feet to 20 feet.

From the above it would appear the rod was originally a land measure.

Methods of Cleaning Brick Buildings

SOME EFFECTIVE METHODS USED ABROAD FOR THIS WORK—HOW ACID AND SOAP MAY BE SUCCESSFULLY EMPLOYED—DIRECTIONS FOR USING

A GOOD means of cleaning brick buildings is by the use of hydrochloric acid, and provided the acid is not too strong this method may be quite satisfactory. For many purposes, acetic acid is more satisfactory than hydrochloric acid, as it is equally effective in its action on the dirt, without having so corrosive an effect on the bricks. It is more expensive, but owing to its non-corrosive action, buildings on which it is used remain clean longer than when the stronger "spirits of salt" is employed.

The amount of acid and water mixture required will vary somewhat with the care and skill with which it is applied, but will average about 4 square yards per gallon of mixture, with ordinary care, and costing for acid less than a cent a square yard, with acetic acid, and half to one-third of this amount for common hydrochloric acid.

When acid is used to clean the face of a building, the latter should first be washed over with clean water to remove all the dirt which can be taken off by this means. The surface is next treated with the weak acid—a hard brush, but not one of metal, being used—and finally the building is washed over with clean water, to remove any material which has been loosened, but not actually removed by the acid. This final washing may, if desired, be carried out by means of a powerful jet of water, care being taken to work from top of the building downwards, so as to prevent all accumulation of unsightly spots caused by the "creeping" of the dirt, which always occurs when the building is played on irregularly with a hose.

Soft soap has been tried with much success, especially when it has been dissolved in 36 to 40 times its weight of warm water (1 pound of soap in 4 gallons of water) and used whilst still warm. Apparently the most efficient cleaning is obtained by treating the building with clean water, then with the soap solution applied with a hard brush, and finally washing down with water just as was recommended above when acid is used.

Soap has little or no action on clean brickwork or stone, and its effect on soot and similar matters of a greasy nature is far more intense than that of any acid, so that when it is used, buildings of either red or buff bricks rapidly regain their original color, unless the cleaning process has been so long delayed that nothing can ever remove the dirt from the bricks. Care must be taken to wash off thoroughly all the soap by means of a thorough playing with a hose or by the more expensive washing over with clean water, or discoloration will be produced. In actual cost, the use of soft soap in the manner described works out at practically the same as for acid.

In buildings where the dirt is more of a dusty than a sooty character, it will not usually be necessary to

employ any special cleansing material, as a powerful spray of water—such as that from a fire-engine—will usually clean the building sufficiently, providing that the surface of the bricks is reasonably close and dense.

In cleaning terra-cotta work, special care must be taken that the surface is not destroyed, as much of the modern terra cotta has a finished or dense face but an open or porous body, and if once the face is removed it will be almost impossible to keep the building clean.

For buildings which are disfigured by a whitish encrustation, technically known as efflorescence or "scum," the use of very weak hydrochloric acid is almost essential, though even this does not always prove a complete remedy. The causes of "scum" are so numerous and complicated that it is difficult to provide any single means of removing this unsightly material.

Scum is chiefly caused by soluble salts in the bricks, which are dissolved when the latter become wet with rain, and as the water dries out it carries the salts to the surface of the bricks and there deposits them. If the scum were only thicker, it would be best to remove it by scraping the walls gently, taking care not to scratch the bricks, but this is not usually practicable, and the least harmful method is to brush the defective surface with a moderately hard dry brush, when the bricks are thoroughly dry. Should this not prove effectual after several times, the surface may be washed over with a little weak acid, and then with water, the disadvantage of this latter method being that it may cause the formation of a larger proportion of soluble salts (through the action of the acid on some of the constituents of the brick), and the remedy may thus prove to be worse than the disease. The same, in a lesser degree, is true of repeated scrubbing of the wall with a wet brush and water.

The greater part of the scum which disfigures so many buildings is really due to faulty material or to the use of impure water in manufacture, and only in very few instances is it due to the absorption of soluble salts from careless storage of the finished bricks.



Carpenter's Long Fall

While Joseph Bealeu, a carpenter employed on the erection of a tower for one of the attractions for the exhibition at Sherbrooke, Man., was on the topmost part of the tower, the board upon which he was standing broke and he fell a distance of 91 feet into a tank containing only two feet of water. He was practically uninjured—*Winnipeg Tribune*.



Ignorance may mean bliss in some jobs; but in the paint business it more often means blisters.



Heavy Timber Barn Framing

To the Editor:

McGregor, Iowa.

I herewith send you photo of a full frame barn built this season. The dimensions of this barn are 36 by 80 feet, with 18-foot posts. The basement is 8 feet in the clear. The sills are 8 by 8 on wall; center crown sills, 8 by 10; posts, 8 by 8; girts, 4 by 6; plates, 6 by 8, and braces, 4 by 4.

This barn was framed by myself and six men in five days. It took from 9 a. m. to 4 p. m. to raise the frame complete. The frame was covered with 1 by 12 stock boards; joints cov-

will explain in the same simple language how to get the cuts for raking molding with the steel square. Trusting I have not taken up too much space in your paper and wishing the AMERICAN CARPENTER AND BUILDER all success, I am,

JAMES HOWIE.

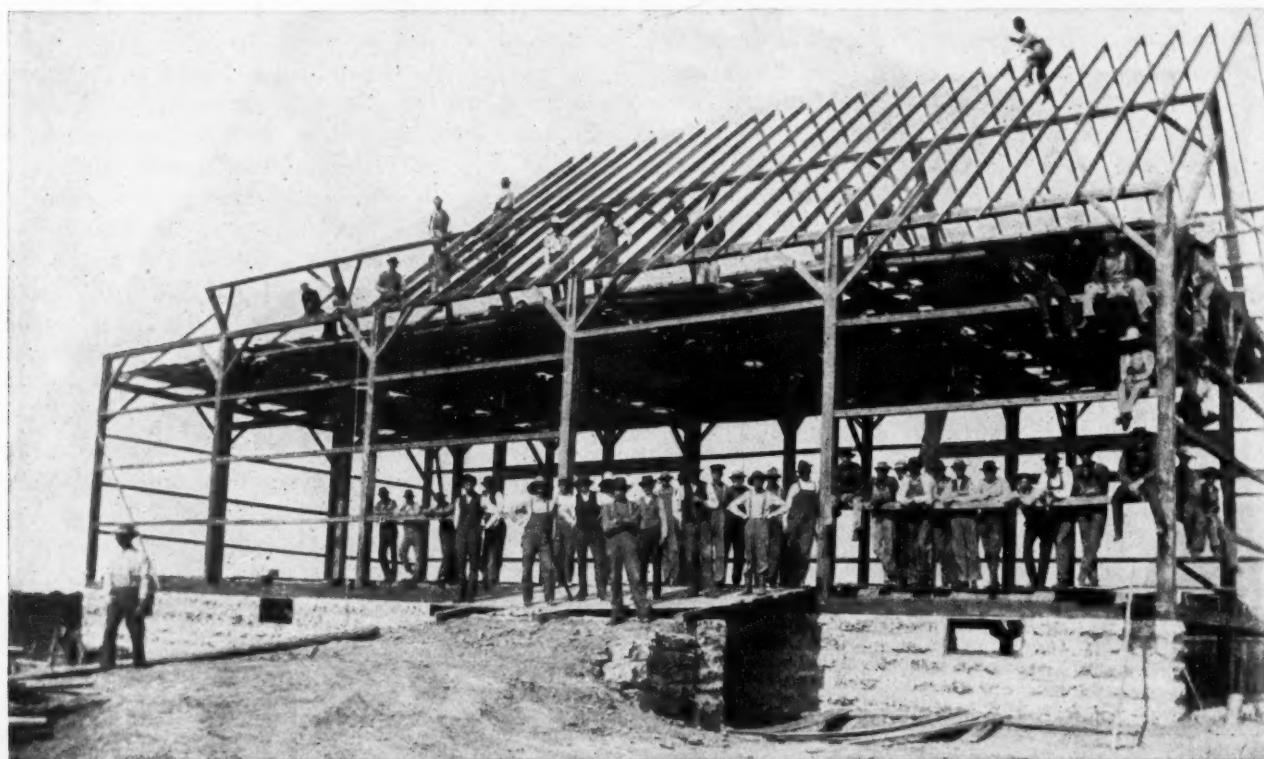


How to Learn From Books

To the Editor:

Stamford, N. Y.

Please accept my thanks for book, "Framing," which I re-



ered with 2½-inch battens. The open side of basement is walled with No. 1 fence flooring. Have built seven of these barns this season, varying in size from 32 by 40 to 36 by 80 feet.

C. B. KREUTER.



Gratitude From a Reader

To the Editor:

Eugene, Ore.

Would you grant me space enough to thank John Stillians for the clear and simple way in which he solves Mr. Rick's problem? I have gained much information from the same.

Last summer I was on a job where we had the bargeboards of a square pitch roof rest on a quarter pitch roof. I, being a green horn with the steel square, was up against it and had to resort to holding it up in place while my partner scribed it. Thanks to Mr. Stillians, I won't get up against it any more on a problem of that kind.

Perhaps Mr. Stillians or some other of your correspondents

ceived by mail a few days ago. I consider it a very valuable work on carpenter work. And right here I would like to talk a little with Mr. A. J. Lohr, Greencastle, Pa. In the September number, about books, he says that he has spent many dollars and midnight oil in fruitless search for the very information that the books and authors claim to give, and yet conceal. Says that he has two volumes on the steel square that he cannot understand, and that he has shown them to a number of skilled mechanics and that they cannot understand them.

Now, I don't presume to know it all about roof framing or books, but what I do know about it I have got from books, and my education was limited to the common schools (pretty common at that). I don't wish to criticise Mr. Lohr or his brother mechanics, but would like to help them. If Mr. Lohr will take some one system of framing, and not get a lot of different ideas all mixed up, and will get it clear in his head so far as he can, then when he goes home from the work

some night, if he will take a few strips of edgings, lath will do, and after supper go to work and build a roof, say a four-gable, cut to some scale, get his mind on it, cut the main rafters, valleys and jacks, and put it together with brads, he will be surprised to find how much the books will tell him. Build two or three, all different. Cut every stick before he begins to put it together.

I have seen quite a good many books on the steel square, and they are about the same, that is, the result is the same; but they are worded a little different and that is likely to confuse the workman. Mr. Lohr does not say what his books are, but if he will take the back numbers of the AMERICAN CARPENTER AND BUILDER, and study the problems on the steel square by A. W. Woods I don't think that he will have any trouble to understand them. DON MCPHERSON.

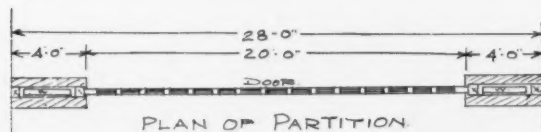
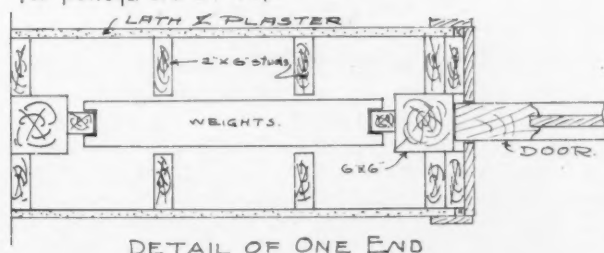
Doors to Work Up and Down

To the Editor:

Prairie View, Kan.

As I am a charter member of your valuable magazine, I would like to have a little information on something that puzzles me a little. I have to run a partition through a

NOTE. If Room is 16'-0" high, Door should be 7'-6" only to allow room for pulleys etc. at top.



church about 28 feet long and 16 feet high. Now what I would like to know is how to make this with doors that can be worked up and down to open and close the room. What I would like to know, is how to commence on it, in the case the committee wants it with doors? H. GUICHELAAER.

Answer: The doors such as you require should operate like a window hung on weights, sliding up in a double partition, as per the accompanying drawing. Should you desire rolling doors, specification for their installation may be obtained from the several companies manufacturing such partitions.

EDITOR.

Specifications for Asphalt Floors

To the Editor:

Elko, Nev.

Will you please advise a subscriber as to the proper specifications for an asphalt floor for toilet room in a public school building. ELKO LUMBER CO.

Answer: The following are complete specifications for the proper laying of asphalt floors in school houses as specified by one of the well-known asphaltum companies:

Mastic and Flux.—The asphalt mastic to be used shall be that produced by * * * *. The asphaltic cement or flux must not be less than 99 per cent pure bitumen, shall be absolutely water-proof and unaffected by extremes of temperature and manufactured by the same company.

Process of Mixing.—480 pounds of mastic blocks shall be broken up in small pieces weighing about 2 pounds each, thrown into kettle and before fire is started about 5 per cent

of the pure asphaltic cement or flux shall be added, for mix in a room of ordinary temperature, 70 degrees. In rooms of high or lower temperature, percentages of asphaltic cement shall be used according to these temperatures; this mix is then cooked to a temperature of about 400 to 430 degrees, being brought to this temperature gradually, or until it reaches the proper consistency.

To this mix shall be added about 75 to 85 per cent hot, clean torpedo grit, after first being heated and dried, in such proportion that the desired results may be obtained. The mixture must be stirred until the full amount of grit is incorporated.

Process of Laying Floors 1½ Inches Thick.—Floors should be laid in two layers, each ¾ inch in thickness. This heated mixture shall then be laid evenly in strips of about 8 feet wide (or such widths as to reduce the number of joints), using a strip of wood ¾ inch thick by 3 inches wide, laid parallel with the wall for a guide.

This bottom layer shall not be rubbed smooth, but simply massed evenly. Great care should be taken that no dirt is allowed to accumulate before the second layer is laid over it.

Second Layer.—After 2 strips of the bottom have been laid, a second layer ¾ inch thick shall be placed over same; but this time wooden strip shall be placed 7 feet from wall, so that each joint in the layer will overlap joint in first layer about 1 foot. This layer must be rubbed smooth as fast as it is laid, using fine lime, sandstone dust or cement on the surface while rubbing.

When this strip of floor is laid, remove the wooden strip and place it about 7 feet from the edge of the floor just laid, to receive the next section. When laying second section, hot mastic mixture must extend over first section about 4 inches, so that edge of cold section will become soft, thus making a perfect bond between sections. Cut off surplus material and rub joints thoroughly.

Floors 1 inch thick should be laid in one layer.

When Laid on Wood.—Floors should be made as clean and dry as possible, then covered with two thicknesses of building paper or one layer of waterproofing felt.

Water-proofing of Walls and Posts.—All walls and posts should be painted with two coats of * * * asphaltum paint, from 3 to 6 inches above the floor line.

Fillet.—After floors have been finished, put fillet 3 inches around all walls and posts.

Workmanship.—All work to be done in a thoroughly workmanlike manner.

Guarantee.—The work will be guaranteed for 5 years that it will be absolutely water-proof, and that floor will be in good condition at the end of that time, if subjected to ordinary wear and tear.

EDITOR.

How to Plane a Square Edge

To the Editor:

Marshalltown, Iowa.

Some of the "boys" have given Mr. C. H. Taylor pretty good advice in regard to squaring a board on the edge with a hand plane in the August number, especially J. W. Burns. I would add that after having his planes in working order and his board screwed in the vise, edge up, that he take his try square and see where the edge is not square. Then take his jack plane and dress off the high edge. Now take your jointer and commence at the rear end, and after a few strokes try the edge and see how near you have it square. On getting it square keep right on to the front end. By starting at the rear end square you have a guide for your plane the rest of the way. I would not advise using any gauges, guides or props under your plane, but keep your wrist stiff after starting, which you will find in practice to be the best guide. Using guides or gauges is like teaching a boy to skate with ankle braces. Nothing will strengthen his ankles more than a few hard bumps on the ice. J. G. WEATHERY.

Staunch and Artistic Barn

To the Editor:

Asbury, Mo.

I am a charter member of the AMERICAN CARPENTER AND BUILDER and think it the best magazine of the kind published. I enclose a picture of barn recently built on farm near As-



Barn Built for S. M. Shrock, Asbury, Mo., Hudson & Hall, Builders

bury, Mo., for S. M. Shrock, by Hudson & Hall, contractors and builders. It is pronounced a very artistic and satisfactory structure.

ED. HUDSON.

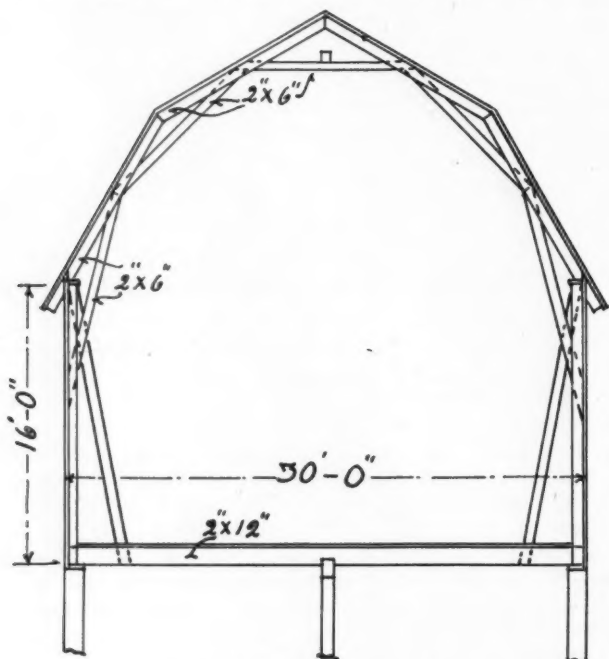
Balloon Frame Barn

To the Editor:

Hayfield, Iowa.

I shall very much appreciate if you will instruct me how to build a balloon frame barn 32 by 60 feet, 16-foot posts, with a gambrel roof. It should have no purlin posts, but an open center.

I particularly desire information on how to frame the rafters and construct them so that the point of purlins will be on a straight line. I wish also to know how to raise the



rafters the easiest and best way. Please give me some pointers on how to properly build scaffolds for raising the rafters.

J. E. JOHNSON.

Answer: The accompanying sketch shows the proper fram-

ing to use. We would suggest that the rough floor of the barn be laid and that the full size design of the truss be drawn out on same, and each truss made on the floor and raised respectively into position.

EDITOR.

Top Cut for Truss Again

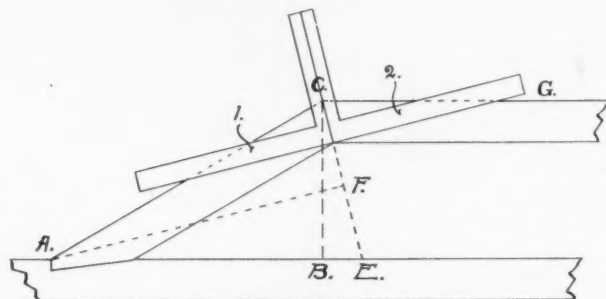
To the Editor:

Ithaca, N. Y.

In the April issue of your magazine is a discussion relative to a bay window problem proposed by Fred G. Nye. The subject was very ably treated, but the process was not absolutely a steel square one. It appears that the geometric principle involved in laying out trusses, bay windows, etc., is not generally understood, for several authors of books on carpentry and steel squares have perpetuated an error which I wish could be cancelled from all books.

The following is the substance of the erroneous method of laying out a truss quoted in part: "The bevel of the upper end of the brace where it butts against the straining beam is found in the following manner: Take the length of the brace or proportional part and mark it on the edge of a board; take half the rise of brace on the tongue, lay it to one of these marks on the board and move the blade until it touches the other mark on the board. A line drawn along the tongue gives the bevel for both brace and straining beam. (Incorrect.) The angle made between the brace and straining beam is thus bisected." (Also incorrect.)

I herein enclose a rough sketch showing how, in a general



way, such cuts may be made with no other instrument than the steel square.

The bevel at the foot of the brace is marked by taking proportional parts of the rise, B C, and run, A B, on the tongue and blade respectively; cut on the blade; the bevel of the upper end of brace where it butts against the straining beam and also of the straining beam is obtained by taking proportional parts of the difference between length of the brace, A C, which is equal to E, and the run, A B; that is, B E on the tongue, and the rise, C B, on the blade; and the tongue when the square is in position, 1 gives the cut for the brace, and the tongue is in position 2 gives the cut for the straining beam, and the angle, A C G, is thus bisected. The diagram shows that if we take A as a center and a radius A C, and draw the arc C E, then B E is the difference between the length and run of the brace.

CHAS. GRAY.

Sheathing Outside and In

To the Editor:

Freeland, Md.

I think your paper all right; it is a great help to me. I give you an answer to one of the brothers in the July paper in regard to sheathing a house on the inside or out.

To sheath on the outside I think is best, but nail your sheathing on the frame and then put on paper. Also, I believe in nailing $\frac{1}{2}$ by 2 inch strips on sheathing right on top of studding, and one strip on at water table on bottom, so the cold air can not circulate up through the air chamber. This makes a dead air chamber between sheathing and outside siding.

W. H. G. MASEMAL.

Two Questions Answered

To the Editor:

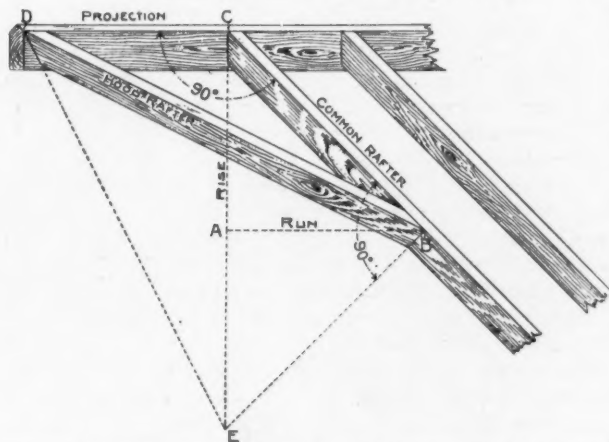
Randall, Kan.

Will you please tell me how to find the top cut of a hood rafter when the bottom cut is square with side cut on $\frac{1}{2}$ or 45 degrees pitch. The rafter will lean under so that the sheathing will lie on same without beveling the rafter.

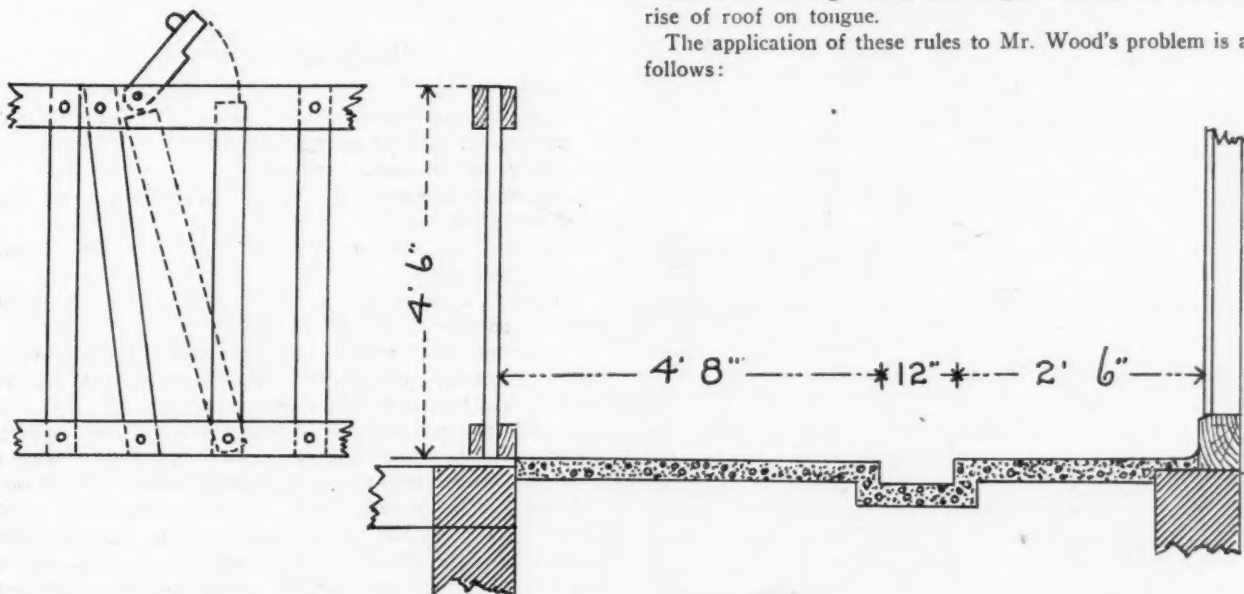
Also please tell me the best way to make a cow stanchion.

E. E. GITHENS.

Answer: The hood rafter set in the position as called for in the above furnishes a problem not readily grasped by the



average framer because it partakes of unseen parts, as shown by the dotted lines in the diagram. A B represents the run of the hood; B C represents the length of the corresponding common rafter and A C its rise. C D represents the projection of the hood and B D the length of hood rafter. As C D and B C are at right angles to each other, it is very plain to be seen that B C and C D taken on the square will give the respective top cut across the back of the rafter. The cut across the side of the rafter at B is a square cut because it is at right angles to B C. But the real sticker, if there is one, is the cut across the face of the rafter at D, and here is where the unseen part comes in. The parts to take on the square are B E and B D. The latter will give the cut. If the rafter



is to rest with its sides plumb, then it may be treated as a hip or valley rafter, as the cuts are identical, except the cut across the face at the lower end will be a plumb cut same as at the upper end. This would require the rafter to be backed so as to lie in plane with the common rafter and should be all one way.

As to the cow stanchion, the accompanying illustration was obtained from one with large experience as a practical dairyman, and is simple in construction. He says it is well to put up the stanchions in sections that can be moved to give a greater or less distance back to the trough, according to size of the cow, the distance given being for the cows of average size. A change of 4 inches either way may be required for small Jersey or large Holsteins. A. W. WOODS.

Sills and Shingles

To the Editor:

London, Ont.

In answer to George Novotny, of Browns Valley, Minn., about rotting sills and shingling, I would say: First, it will make a better job to cover the ends of joists with two thicknesses of heavy tarred paper to prevent dampness. For shingling for a first-class job, wet the shingles before laying. Lay shingles 5 inches to weather and from $\frac{3}{8}$ to $\frac{1}{2}$ inch apart. Nail $\frac{3}{4}$ inch from edge of shingle and about 1 inch above line of following course; split all shingles over 8 inches wide. The shingles will always lay flat and the roof will last from seven to ten years longer than if the shingles were laid close; as the dirt has no chance to get cleaned off the roof after rains. This has been my experience of 30 years. Under no condition put nails in center of shingles. I appreciate the AMERICAN CARPENTER AND BUILDER very much.

T. R. WRIGHT.

When Gables Are of Different Widths

To the Editor:

Kenedy, Texas.

I am a new subscriber to AMERICAN CARPENTER AND BUILDER. Think every number is worth the year's subscription price.

I offer the following solution to Mr. Chas. Wood's sticker in cornice work in September number:

First.—Take the length of common rafter on side the plancher is to be nailed to, on blade of square. Take inches for feet and twelfths for inches. Take half the width of the other gable on tongue. The tongue will give the cut.

Second.—For edge bevel, take length of rafter on blade and rise of roof on tongue.

The application of these rules to Mr. Wood's problem is as follows:

The approximate lengths of rafters is 12 feet 8 inches for the 18-foot gable, 12 feet for the 16-foot gable.

To cut plancher for 18-foot side the figures will be 12 $\frac{8}{12}$ on the blade and 8 on the tongue.

The edge bevel will be 12 $\frac{8}{12}$ and 9 (rise of roof).

For the plancher on the 16-foot side the cuts will be 12

and 9 (half of 18-foot gable), and for the edge bevel, 12 and 9 (rise of roof).

Mr. Wood's last problem can be worked in the same way, i. e., take length of rafter on blade and half width of building on tongue for cut. Take length of rafter and rise of roof for edge bevel.

I prefer the following method where the pitch of both roofs is the same: Find the distance between 12 on blade and 10 on tongue. Take this number on blade and 12 on tongue. Tongue gives cut. Take same figure on blade with 10 (rise per foot) on tongue for edge bevel.

When the gables are of different pitches the planchers will have to be of different widths in proportions to the lengths of rafters.

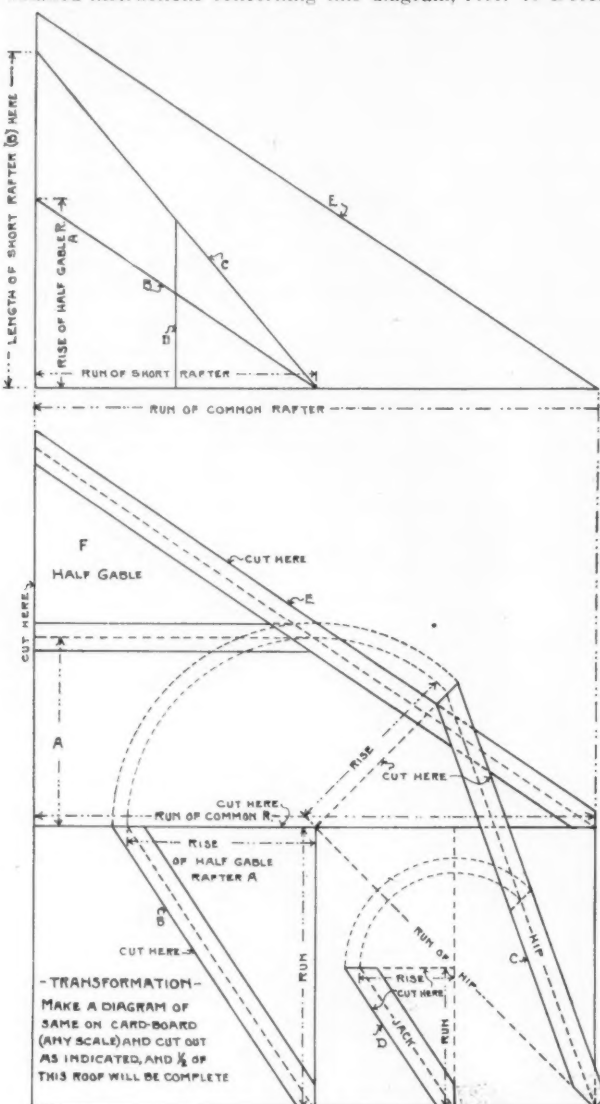
T. C. McCoy.

Framing by the One-Inch Scale Method

To the Editor:

Convent, La.

After a careful examination of Mr. G. W. M.'s article on roof framing in the July number, I am inclined to believe they bear a little relation to Mr. Hicks' A. B. C. Now, for detailed instructions concerning this diagram, refer to Decem-



ber number of 1907, pages 335 and 336, and on these pages you will find all there is in roof framing. With the A. B. C. method, odd runs, rises and complications are a cinch, because the method is based upon these two vital points; that is you must know the run and rise; and I do not believe any other system can work out without these two points first being established.

Those of the craft who would like may follow the geometric principle involved which is that the shortest distance between two points is a straight line. You will see that this is all he uses; and the beauty of it, there is no line drawn but those entering the roof. The simplicity and accuracy of this method is seldom equaled—never excelled. Try it.

B. P. TUREAUD.

Much More to Learn

To the Editor:

Enfield, N. H.

Being a subscriber to the AMERICAN CARPENTER AND BUILDER I notice that notwithstanding the valuable information given its readers it does not at all times omit the ignorance of some. Take for example the "Comment from a Reader," inserted in the September number.

Referring to rafter cutting permit me to say that if you have for thirty years used a piece of board to mark out the bevel pattern for side cut of jack rafter, or any other cut, you would fail to act as foreman of a decent job in any of these cities (I do not mean New Hampshire).

Did it ever occur to you that the side cut of a jack to fit the hip should be obtained by using the length of the gable rafter as the rise, and the distance from foot of gable rafter to corner of plate as the run? Try it and be convinced. It is a simple but sure way, and does not require anything but the steel square to do it.

S. W. HAYS.

To Renovate Files

To the Editor:

Morley, Mo.

Wish to state that I have been looking over your paper ever since it started and I think that it is something that every carpenter needs. I see in the September number that Mr. Thos. Peck wants to know if "files can be renovated." I say that they can. My method is as follows: Lay them in dilute sulphuric acid until they are eaten enough.

JOHN T. WORLEY.

Elliptical Arches

To the Editor:

New Britain, Conn.

Having for years been a charter member of the great family of the AMERICAN CARPENTER AND BUILDER, I will ask for answers to the following questions:

First.—Is the process of drawing an elliptical arch the same as for the oval?

Second.—Can it be done in any other way than using parts of true circles?

Third.—It is necessary to take a rise according to the width of opening or any rise desired?

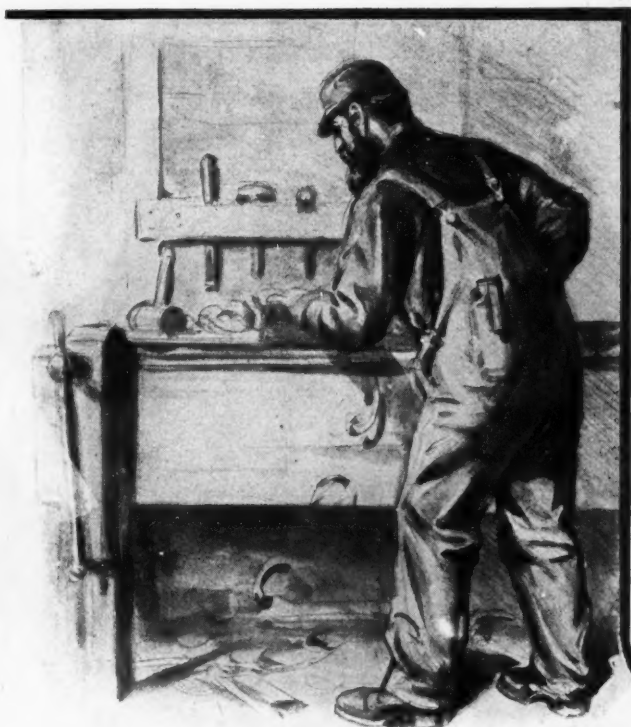
I have at times taken a rise regardless to the run or width of opening, which often brings the arch quite flat, yet working out to a fairly good effect.

In residence work in this section there is not one building without one or more elliptical arches, therefore I wish to know more about how to work out these arches. S. W. HAYS.

Answer: The questions asked are fully answered in A. W. Wood's article on the Steel Square in the May and June numbers of this magazine. The question of proportion is largely a matter of taste, and the layout should be governed accordingly, avoiding extremes either way. The best effect is obtained by adhering to about the mean between the two.

In Fig. 253 of the June number is shown the mean between the two, that is, the short diameter is equal the diameter of the square, while the long diameter is equal the diagonal of the square, or, in other words, the short diameter is equal to 12/17 of the long diameter.

EDITOR.



Two Kinds of Workers and Two Kinds of Tools

The difference between the man at the desk and the man at the bench is training—the kind of training that demands well paid positions of dignity and importance.

¶ We don't mean by this that the **desk job is always better** than the **bench job**. We don't mean that you should change your present work. We **do mean**, however, that you must combine more of the **desk man's kind of training** with your work if you want to amount to anything in your trade.

¶ The desk man uses one kind of tool that too often the **bench man** neglects entirely. That tool—the best one in the whole kit is books; practical books that tell how to do your work in the easiest, the best and the latest ways; books that tell you all about each and every feature of your work to the smallest detail; books that keep you in touch with the biggest and smallest details of building construction.

¶ Government Statistics prove that the **average desk man** earns \$22,000.00 more in a lifetime than the **average bench man** simply because of this main fact—he trains the brain as well as the eye and hand.

¶ The up-to-date mechanic in every kind of work trains his **brain** even more carefully than he ever trained his hand. That is the slogan of Twentieth Century Success—the **trained mind in a trained body**.

¶ The man who uses the compass, the steel square, the chisel or the saw has got to have a true eye and steady hand. He learns in his apprenticeship how to train his eye and hand to the top notch of efficiency. Too often, however, this same man of the **trained body** forgets to **train the mind** that **directs** the work of the body. This kind of a man with the **untrained mind**, while he may be able to do **mechanical work** well enough, cannot do **brain work** and is bound to get in a rut **in the long run**. It takes a trained mind to read plans and blue prints; many a contractor has been ruined in trying to estimate a bigger job than he really is fitted for. The big jobs demand training; so does everything in life that's worth while. No man can **advance** permanently and successfully unless he **first** fits himself for the higher level of work.

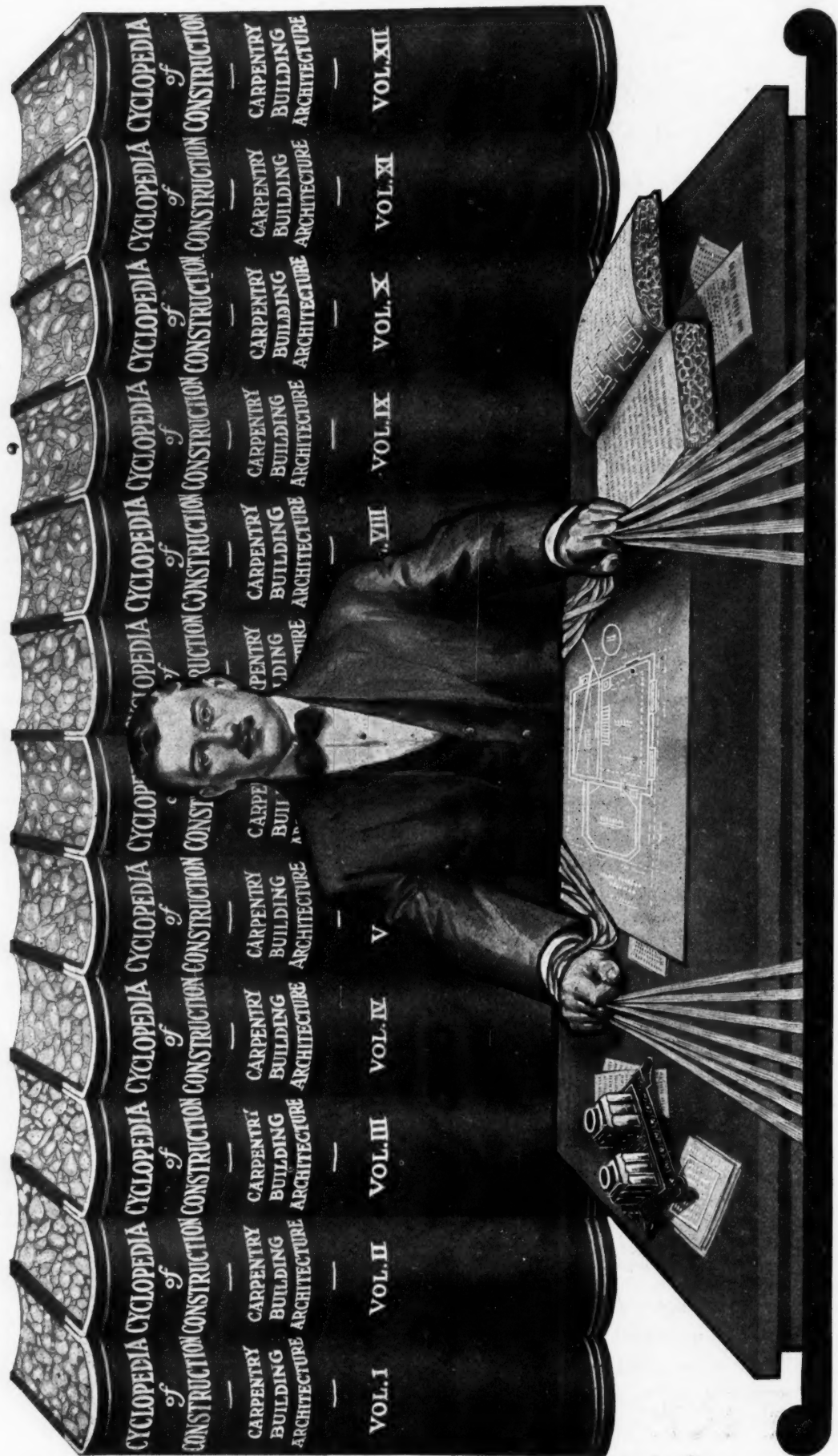
¶ Do you want to live and die in the same kind of a position?

This circular gives you the opportunity of a lifetime to better yourself.

FREE Examination Offer

(SEE NEXT PAGE)

The Trained Man Holds ^{the} Reins



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER

THE TRAINED MAN HOLDS THE REINS—Backed by practical knowledge he is in the position of directing those with whom he comes in contact. The worker looks to him for advice, for suggestions, for ORDERS as to HOW TO PROCEED. He always holds the REINS OF AUTHORITY because he knows how to handle them. The TRAINED MAN says where the untrained man shall go, what he shall do, and how he shall do it. Isn't it worth investigating how to get in HIS position?

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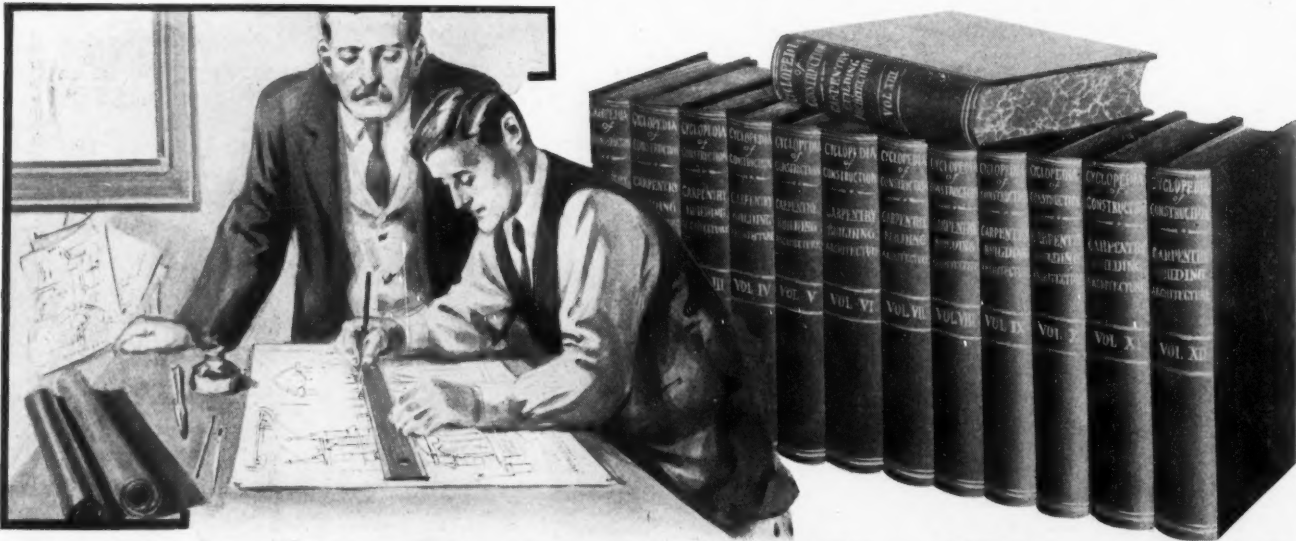
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PLUMBER



The Knowledge Behind the Blueprint

Every Carpenter, Contractor, Mason—every Mechanic—should be able to read working drawings and blue prints. Without this knowledge he can never hope to do anything for himself—never hope to take the lead in any kind of building work. Before he can read drawings and blue prints he must learn what the Architect and Draftsman must learn—he must go back of the drawing to the knowledge that makes the drawing possible. Below you will find the briefest possible list of contents of Radford's Cyclopaedia of Construction—This is the knowledge behind the blue prints.

VERY BRIEF LIST OF CONTENTS

To Realize Their Tremendous Scope You Must See the Books

CARPENTRY—COMPLETE

The Plan
Principles
The Section
The Elevation
Blue Printing
House Framing
Stair Building
Steel Square

The Square in Stair Building
Key to Steel Square
How to Test Steel Square
Possibilities of Steel Square
Test Question, Practical Problems, etc.
Roof Construction
Roof Trusses and Mill Building Construction
Roof Coverings
Shingling, etc.
Roofing Materials
Building Construction
Foundations, Retaining Walls, etc.
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Hot Air Heating
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STEEL CONSTRUCTION

General Principles
Practical Applications
Elements of Steel Construction
Manufacture of Cast Iron
Manufacture of Steel
Steel Shapes
Use of Hand Blocks
Classes of Structural Material
Compression Members
Classes of Steel Structures
Steel Frame Buildings
Roof Trusses
Manufacture of Structural Members
Practical Problems in Construction
Fireproofing
Use of Tiles

CONCRETE CONSTRUCTION—PLAIN AND REINFORCED

Never before has this subject been so thoroughly treated
Evolution of Cement Industry
Specification for Portland Cement
How to Test Cement
Mixing Concrete (Hand and Machine)
Standard Specifications
Testing Concrete
Working Rules
Proportions—Sand, Stone, Gravel and Water
Bonding Old and New Concrete
Effects of Frost
Troubles and Remedies
Efflorescence and Cracks
Causes of Failure

WATERPROOFING

Concrete Blocks
Systems
Establishing a Concrete Block Business
Concreting Machinery
Concrete Mixers
Concrete Block and Brick Machines
Methods of Construction

Construction of Forms
Concrete Houses
Monolithic and Block Work
Plaster and Stucco
Foundation Work
Concrete Piles
Steps and Stairs, Roofs, Walls, Porches, etc.
Metal Lath
Woven Wire
Concrete Sidewalks
Culverts
Concrete in Art and Ornament
Concrete on the Farm
Concrete Silos
Stables, Cisterns, Hog Pens, etc.

REINFORCED CONCRETE

Systems of Reinforcement
Life of Embedded Steel
Kinds of Bars, etc.
Industrial Buildings
Sewer and Tunnel Work
Bridges and Viaducts
Piers and Dams
Coffer Dams
Abutments
Dock, Dry and Wet
Water Tanks, etc., etc.
Miscellaneous Rules, Tables, Formulas, etc. and thousands of other subjects as important

A. C. & B. 11, '09

Radford Architectural Company

11th Floor, Medinah Building, Chicago

Please reserve set of your 13 volume Cyclopaedia of Construction for me for five days free examination, under the terms of your Advance Offer. I enclose \$1 deposit which you agree to return if I decide not to buy the books after examination. If I keep the books I will pay \$2 a month until the special price \$18.80 is paid (including year's subscription to Am. Carp. & Bldr.); otherwise I will notify you within five days after receipt of them. You also agree to furnish set of blue prints, if ordered within 2 months after acceptance of books.

Name _____

Address _____

Employer _____

RADFORD ARCHITECTURAL CO.

ENTIRE 11th AND 12th FLOORS, MEDINAH BLDG., CHICAGO

With Gables of Different Widths

To the Editor:

Herington, Kan.

I notice Chas. Wood's cornice sticker in September number. Now there is but one practical way to finish a cornice of that kind and that is to make the plancher on the 16-foot gable narrower than the plancher on the 18-foot gable. If the plancher on the 18-foot part is 12 inches, then on the 16-foot part it will be 10 $\frac{3}{4}$ inches, and the two will member up all right and the difference will not be noticed. If Brother Wood will get him a Nichols' square he will find all of these problems explained. I have one and I depend on it altogether. Would not part with it at any price if I could not replace it.

The AMERICAN CARPENTER AND BUILDER is a great paper. I read the letters of the other chips of the trade with pleasure.

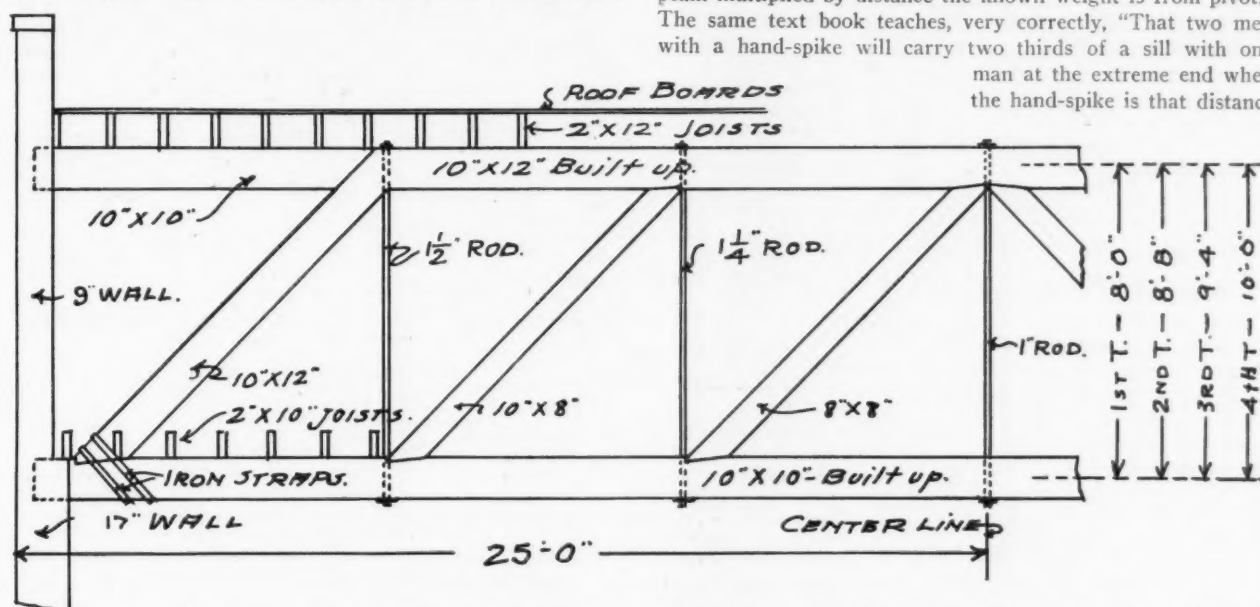
WM. LEWIS.

Truss for Flat Roof

To the Editor:

Chula, Mo.

Will you please give me a sketch of a roof plan for a hall 50 by 70 feet? There will be no supports to carry roof, which



is to rest only on the outer walls and span the 50-foot way. I want a flat roof to slope from the front to the rear with a fall of $\frac{1}{2}$ inch to 1 foot. The front and sides will be enclosed by a fire wall.

I have been a reader of the AMERICAN CARPENTER AND BUILDER from the first issue and like it much better every issue.

GEO. W. HARMAN.

Answer: The accompanying sketch shows such a truss as will be required to carry the roof of your building. There will be four of these trusses placed 14 feet apart. The sketch shown is for the last one and the height is to be increased on each successive truss as they approach the front of the building.

EDITOR.

"Steelyards" Proposition Defended

To the Editor:

Hanford, Cal.

Please give space to reply to C. W. Talbot to respective contributions by F. Schneider and J. G. Weatherby in their attempts to enlighten the readers of your magazine about the "hand-spike problem."

Mr. Schneider credits the portion of the timber extending over the hand-spike 5 feet at the "A. B. end" with affecting only the "hand-spike end," yet with this hypothesis asserted, he immediately assumes that C. will carry only 10 feet of the

timber, holding to one end of the 25 feet of timber. Thou art inconsistent, brother.

If you had placed the hand-spike at 10 feet from the end and pursued your line of reasoning you would have been consistent, although in error.

Now since the portion extending over the hand-spike does affect the "C. end" as well as the "A. B. end," it follows that it could not affect the "hand-spike end" just 5 feet as you assumed, consequently your reasoning is upset and both you and Mr. Weatherby, who assumes that the reasoning of a mathematician is like unto the child playing "hull-gull how-many," thus needing the second guess.

Now you both attack my letter, published in the August number, in its strongest place in denying the accuracy of the answer given in my letter.

My friends here admit the accuracy of the answer given, but ask me, "Why don't you make it more mathematical?"

My reply is that it is not (strictly speaking) a mathematical problem. The principle of the "steel-yards" best applies, which is as follows: "The weight of the article hanging on the hook multiplied by the distance the hook is from the pivot of beam equals the product of the known weight on beam multiplied by distance the known weight is from pivot." The same text book teaches, very correctly, "That two men with a hand-spike will carry two thirds of a sill with one man at the extreme end when the hand-spike is that distance

from the center which multiplied by two will produce the same product as the distance the other end is from the center multiplied by one."

If you are not convinced try my answer with two pair of reliable "steel-yards" or spring scales. If you had said the hand-spike should be placed 10 feet from the end and followed that assertion with your line of reasoning, you would have been consistent though erroneous.

C. W. TALBOT.

Plain and Understandable

To the Editor:

St. Paul, Minn.

In looking over the AMERICAN CARPENTER AND BUILDER for August I notice that John Stillians, of Fort Smith, Ark., does not like the formulas. I must congratulate him as the most sensible of them all. I am in his position: I want to secure knowledge from books. I get puzzled about the letters and figures just as he has. He has the rafter laid out in a common, sensible manner. I have taken different journals and books dealing with the carpenter craft for the last thirty years, yet I am as far off in the problems given in the books as they lay it out as ever. I do not understand them. Now, if given in a plain way, as Stillians explained, all of us old carpenters would understand them. I wish to see more of them in the future.

AUG. J. METZGER.

"The Best Floor Finish I Ever Used"

YOU SEE EVERYWHERE THE CLAIMS THAT OTHER FLOOR FINISHES MAKE FOR THEMSELVES

Read Here What the Real Users—the Practical People—Say About Us

What We Say for Farrington Floor Finish

Supported by the testimony of people who have used it under many varying conditions, we make the following important claims for Farrington Floor Finish as to the economies of the new method of finishing and keeping up the appearance of floors.

- it is more convenient to use.
- rooms can be used practically without interruption.
- any handy help can apply it.
- dries in an hour.
- has no annoying or sickening smell as is the case with varnish or paint.
- does not scratch white.
- is not marked white by water.
- is not brittle.
- is not slippery, glassy or dangerous to walk on.
- holds its beauty longer—no constant polishing.
- gives a hard elastic surface
- does not gather dirt.
- can be cleaned easily with a damp rag.
- gives longer service.
- needs no constant renewing as is the case with wax, oil or shellac finish.
- renewing is easier, quicker and costs less than any other method.
- no costly heavy expense for "stripping" the old coat away when Farrington Floor Finish is renewed.
- simply mopping the old coat of Farrington Floor Finish away with denatured alcohol is all that is needed to prepare the floors for a new coat.
- any scrub woman can prepare the floor for re-finishing.
- Places that get unusually heavy wear—"pathways" on the floor—can be touched up easily with a few minutes work, from month to month, or from week to week, if necessary without requiring you to go over the whole floor. This is impossible with shellac and many other finishes.
- The fact that rooms can be in practically uninterrupted use by the guests and members of the family—is important both in hotels and clubs as well as in the home.
- Guest rooms can be finished between breakfast and lunch.
- Dining rooms can be finished after supper and will be ready to walk on hours before breakfast.

Every one of these statements are backed by the testimony of people who have found out these facts by their own actual use of Farrington Floor Finish.

The Farrington process has brought forth a method by which copal—which hitherto was hard to handle—can now be handled with certainty, rapidity and ease. Until now, practical people have known much less about copal than they knew about shellac or shellac substitutes.

Hitherto it has been difficult or impossible to use copal successfully—until the Farrington process was discovered.

But now, as a result of this discovery, copal can be used more easily and with greater certainty and greater economy and satisfaction, than shellac or any other method of finishing floors. Copal is harder, more elastic, more durable, more serviceable.

In order to secure the greater economy of up-keep which is afforded by this new method of finishing floors, some of the largest and keenest property managers are now having their floors stripped entirely of other finishes.

What Real Users Say of Farrington Floor Finish

BOSTON, MASS.—I have recently used your new FARRINGTON FLOOR FINISH, treating a red birch wood. I found great satisfaction in the ease with which it is applied—one can cover the same space in much less time. As it sets or dries with rapidity its use insures a saving of time and a good surface—heel-nails or other injury do not discolor the surface. There is sufficient gloss to give the surface the same appearance as wax but is entirely free from being slippery which is very desirable—rugs or mats will stay in their places surprisingly well upon its surface. It is free from unpleasantness in its application after a very brief time—and one can touch up such places as are most used without the necessity of covering the entire floor. While all can be readily cleaned with a damp rag and its luster restored—I shall be pleased to recommend its use to my clients. G. WILTON LEWIS, Architect, 34 School Street.

LEBANON, N. H.—I think you have the best floor finish in the market. I have finished floors for over 20 years, and have used probably 25 kinds of floor finish, but I shall use Farrington Floor Finish in future exclusively.—JOHN C. McFEE.

EAST WAREHAM, MASS.—I have been in the house painting business about 30 years and have finished many floors, in many ways, and in giving my opinion of your FARRINGTON FLOOR FINISH (after having given it a very severe test) I think I cover it all when I state that it has been more satisfactory than any other quick drying floor finish I have ever used.—J. F. WHITTEMORE.

KENNEBUNKPORT, MAINE.—We have long felt the need of a good Floor Finish. This season we have used Farrington Floor Finish and have found it far superior to anything we have ever used. It is easily applied, looks well, very durable, and is not expensive.—SEAVEY & CAMPBELL.

CAMBRIDGE, MASS.—Referring to your Farrington Floor Finish would say that I have used it on new and old wood floors, and it gives very good satisfaction. I have also used it in place of filler with excellent results, as it dries quickly. I have used it over varnish with equally good results.—E. S. GUILVAULT.

SOMERVILLE, MASS.—Your Floor Finish is the best I have ever used—dries quickly, will not show laps, and will not scratch like most of the other varnishes. I use two barrels every month and know that I can save money by using your varnish and give the people for whom I do the work, the best of satisfaction. It is first-class for old and new work.—CONVERSE C. CAIN; C. Cain & Co., Painters and Decorators, 17 Loring St.

NORTH ANDOVER, MASS.—I first heard of Farrington Floor Finish through a newspaper advertisement. We had our painter apply it on a clean maple floor. We find it is the best floor finish we have ever used; it is applied easily, has no offensive odor, dries quickly, wears well, and its general appearance is all that could be desired. We are pleased to recommend it to any person who is desirous of having nice floors.—DAVIS & FURBER MACHINE CO.

WEST SOMERVILLE, MASS.—I have used Farrington Finish since it was first introduced into this section. I have used many different kinds, but "Farrington's" for mine. I used it on all my floors and it is the only finish I ever found that I could use on my bathroom sheathing that wouldn't turn white from the steam. I was paying a painter \$12 per year to keep my kitchen floor polished—one gallon can of Farrington's and a little of my own time does the same work. I put it on at night and in the morning it is as hard as flint and I have never had it stick or discolor the wood.—H. H. DAVIS, 32 Hawthorne Street.

Floors



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER

EAST HAMPTON, CONN.—I wish to inform you that I am highly pleased with the Farrington Floor Finish. I have used it on old oak floors with perfect success. I have also used it on floors that I have painted and grained, also on a dinig-room floor which I painted black and can assure you that I am perfectly satisfied with your finish. I have had 40 years' experience in the painting business and I consider your floor finish a boon to painters as the floor question is one of the hardest propositions we run up against. I have applied the finish myself and find it easy to apply, works freely, dries in an hour so it can be walked on. No bad smell, and gives the appearance of a waxed floor. I have recommended it to the S. N. E. Tel. Co.—EDGAR N. RICH, Decorator.

WINSLOW, N. J.—We have used your Farrington Floor Finish, and among all the floor finishes we have employed we can truly say that yours is unexcelled. We are not afraid to pronounce it the very best in the market. You may use this letter as you see fit, publish it, or show it—as we only state the plain truth in it.—IDYLHOUR IN THE PINES, G. R. DeMontlord.

SOUTH BRAintree, MASS.—I have used many kinds of Floor Finish and can say that yours certainly comes up to all expectations. I have used it on birch and pine floors and I find it does all you claim it will do. In all ways it gives great satisfaction.—L. R. BARNES.

YORK BEACH, MAINE—I have given your finish a good test on my kitchen floor. I find that it is all right in every particular and all that you claim it to be. In fact, it is the only finish I have ever found without a fault. My customers are all pleased with it.—J. B. PAUL, Hardware and Paints.

EXETER, N. H.—I have yet to hear a complaint about Farrington Floor Finish. It is giving excellent satisfaction. Please send me at once 6 half gallons and 6 quart cans.—AUGUSTUS YOUNG, Hardware, 123 Water Street.

PLYMOUTH, MASS.—Customers who use one can of Farrington Floor Finish come back for more.—JOHN E. JORDAN, Retailer.

“Our Customers Write Our Ads”

THEIR OWN ENTHUSIASTIC PRAISE—THE PLAIN, UNBIASED STORY OF THEIR ACTUAL EXPERIENCE

The Best Advertisements That Farrington Floor Finish Could Have

LUDLOW, VT.—Let me add my testimony to the superior qualities of Farrington Floor Finish over all other finishes I have ever used. I have been in the business forty years. During that time I have tried every kind of finish that is known to the trade. I will testify to the exact truth to every one of the claims I see you are making in your advertisements, and I will stand ready to prove it. I have clipped and kept your advertisement to show my customers. And I add something you have not mentioned. I recommend my customers to use Farrington Finish in places where shellac is used. It is a better filler. It goes on smoother. It does not raise the grain. And it does not color the most delicate wood. It is ten times more elastic than any other finish. It does not cost more than one-third. I have tried Farrington Floor Finish on all kinds of fine grained woods, and it bears up so perfectly that I can do a first-class job with one coat for filler and two finishing coats. It won't scratch white like shellac and all other fillers will. The difference between Farrington Floor Finish and all others is its durability, lower cost of up-keep, its beauty, convenience, and ease of application. Costs less than half, wears twice as long, work of applying it is reduced one-half, cost and labor of keeping it in condition is insignificant. It has given genuine satisfaction to every one I have ever used it for.—E. P. SAUNDERS Decorator and Painter.

MANVILLE, R. I.—To be honest and just I feel I should say that the Farrington Floor Finish we purchased from you has given us better satisfaction and value than any other finish.—EUGENE LESSARD, Rector; St. James Church.

HARTFORD, CONN.—Farrington Floor Finish I will state is the best I ever used on any kind of work.—GEO. F. GRENIER, 244 Jefferson Street.

DORCHESTER, MASS.—Let me write a good word for you in praise of your Farrington Floor Finish. For re-finishings old floors of rooms that are in constant use, your finish saves all kinds of trouble. Folks I do work for have asked many times what materials I have used as they want some for their own use. I think the specially commendable points about Farrington Floor Finish are—1, its durability—2, its body—3, its quick drying qualities—4, its freedom from varnish odors—5, its economy. In fact I find that, for my line of work, there is no comparison between any of the other floor finishes and Farrington Finish. It would be in more general use I suppose, if painters generally understood hardwood finishing and if they were not afraid to tackle an innovation. I ran across a sample of your finish when I was with the Shawmut Furniture Company and found that it was all that was claimed. After that time they never used anything else while I was with them and I believe they are using it yet. I know you have a big success coming to you with Farrington Floor Finish.—M. H. DONNELLY, Antique and Modern Furniture, 237 Bowdoin Street.

MILFORD, N. H.—We find Farrington Floor Finish will do all you claim. When I placed my first order, you will remember I told you I would test it personally before recommending it to my trade. One of my customers, a painter, was putting new floors in his house and consented to try it. He is very much pleased with the result and will use Farrington Finish regularly. He says it is the best floor finish he has ever used and he has been in business 30 years. You are at liberty to use this letter.—CHARLES B. DODGE, Hardware and Paints, Emerson Building, South Street.

HYANNIS, MASS.—I have used several cases of Farrington Floor Finish in the last year and my customers like it very well.—H. W. GRAY, Decorator and Painter.

Our Money Back Warranty The Farrington Method

We send full instructions with each order. In return for your promise that materials will be used in no other way, we guarantee the Farrington Method as follows: “If your first gallon of Farrington Floor Finish does not convince you of the superiority of the Farrington method, it will cost you nothing. Use it as directed, and if your trial does not convince you of its better value and better satisfaction—or if for any fair reason whatever you are not pleased with it, we will refund your money at once and in full. Any time within 30 days, write to us, and if you say that you are not satisfied, we will send your money back to you and the remaining cans of this order can be returned to us at our expense. H. C. Hansen, Treasurer, Farrington Company, Metropolitan Tower, New York City.

The price of Farrington Floor Finish is \$2.50 per gallon, freight paid to the Mississippi river. Discounts on quantities. One gallon, used by the Farrington Method finishes 350 square feet of floor, two coats. Cost less per square foot per year than any other finish or method.

A Free Test

We will send you materials with which you can convince yourself of the truth and justice of their letters, and of our claims. Just tear out the corner of the page and write on the margin or send us a letter like this:—To

The Farrington Company,
(Acb) Metropolitan Tower,
New York.

You may send, without cost to me or obligation of any sort, materials for an easy and thorough test of the Farrington Method of finishing floors—a test that I can make without leaving my desk.

Signed
Firm or House.....
Address

I am interested as.....
(Owner, Supt., Mgr., Agt., Architect, Bldr., Decorator) in.....(No. of).....(kind of) buildings with a total of about..... sq. ft. of floors on which some sort of finish must be used.

Farrington

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER

PRACTICAL TRADE APPLIANCES

Art Glass Designs and Service

We take pleasure in referring the readers of the AMERICAN CARPENTER AND BUILDER to the Schuler Art Glass Company, Madison and Canal streets, Chicago, Ill. As pointed out already in these columns, art glass, though a very ancient material, has recently attained a new use and importance in the finishing of modern residences and public buildings. The Schuler Art Glass Company are now distributing to architects and builders their new catalogue. The designs in it are original with them; they are strictly up to date, and will convey to you an idea of the possibilities of art glass. The designs shown are of clear transparent glass background, with strips of either etruscan, chip, crackled or opal glass. They are appropriate for doors, bookcases, sidelights, transoms, nooks and casement windows.

This company will gladly advise you as to the treatment of art glass for harmony with your decorations and style of building.

The designs given are only a few of the many that can be furnished. The Schuler Art Glass Company will be pleased to submit others, or make you special designs to fit the various openings of your building. If you desire such service all you need to do is to send the sizes, shapes, and approxi-

mate amount you wish to spend in art glass, and they will make designs accordingly.

This company also manufacture and design art glass lamp shades, domes, portable, etc. The benefit of their many years of experience is yours for the asking.

New Power Feed Jointer and Planer

The Sidney Tool Company, of Sidney, Ohio, have brought out what they call their power feed jointer and planer. They accomplish this by applying the attachment to the standard jointer as shown in the accompanying cut. There is a power feed attachment and will plane from 1/16 of an inch to 6 inches thick. The lower infeed grooved roll is adjustable for different thicknesses of lumber, making a complete pony planer out of their jointers in 12-inch, 16-inch and 20-inch sizes.

In addition to this they have also designed a hoisting attachment to take care of this planing attachment, when the user wishes to operate the machine as a standard jointer. This hoister swings the attachment entirely out of the way of the operator, and the change can be made in from one to two minutes, and in applying the attachment to the jointer it does not change the relation of the tables with the head. The

The Value of a Perfect System of Ventilation and Drainage for Show Windows

is not fully realized until you have installed Kawneer No. 30 Ventilation and Drainage Sash.

It is the standard construction, having these exclusive features—a perfect system of ventilation and drainage—full provisions for expansion and contraction of plate glass—cushion spring grip affording the greatest protection to all edges of the glass—an all-metal construction (copper, brass, aluminum, and bronze) which will not rust, rot, warp nor deteriorate.

Are you in doubt as to the value of a "Kawneer System" Store Front? Its compact-

Kawneer System
It Stays and Pays

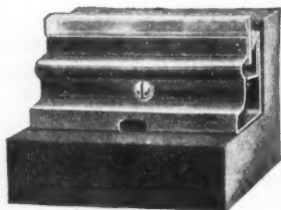


ness, durability, correct architectural lines, and low cost of upkeep, have placed it far in advance of all others.

Thoroughly investigate the merits of Kawneer System Store Fronts. See how easily the glass is set from the outside, how you secure every available inch of display space, and through the use of the Kawneer ventilation system reduce to the minimum frosting and drainage troubles.

Do not confuse the No. 30 Sash with the new designs No. 50 and No. 100 which are for use where no wood backing is desired.

Your client will save dollars in upkeep and the Merchants sales will grow if you use a Kawneer System Store Front. Address the nearest office for Catalog No. 2 and full information.



KAWNEER MANUFACTURING CO.

HOME OFFICE, NILES, MICHIGAN

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SEE SWEET'S INDEX PAGES 850-851



Sackett Plaster Board

FIRE PROOFING

**Instead of
Lath**

**Time
Saving**

**Labor
Saving**

**Money
Saving**

**DOES
NOT
STAIN
OR
BUCKLE**



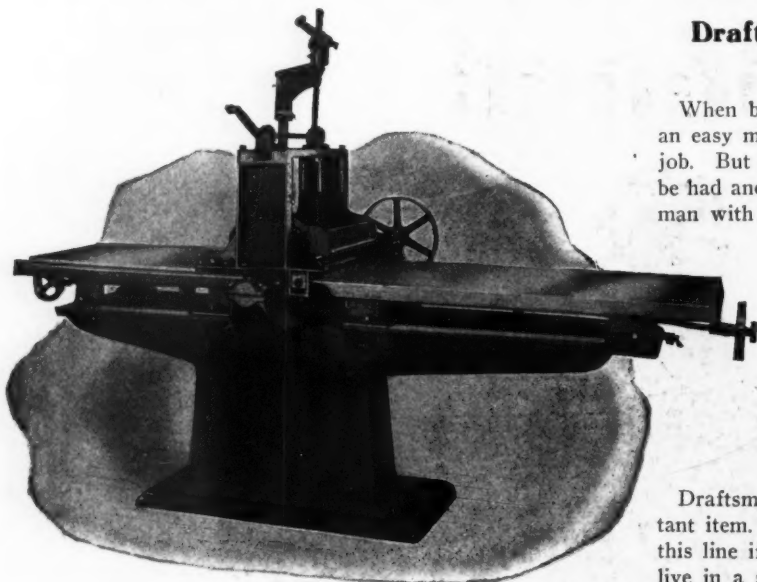
**The board
that made
plaster
boards
famous**

**First used
in 1891
Perfected
in 1908**

Sackett Plaster Board Company

**17 Battery Place
NEW YORK**

thickness which you wish to plane your stock is indicated by graduated index on side of the planing attachment, operated by crank and bevel gears, as shown in the cut. The hoister is also operated by crank and bevel gears, as shown in the cut, lifting the planing attachment high enough, allowing it



to swing around behind the machine. All that is necessary to change the machine from a jointer to a planer, is to loosen the two hand wheels on the back side of the rack of the front tables, pull the tables back about 6 inches, swing the planing attachment in position, and drop it down on the table, put in the two hand wheels in back table, screwing them down firmly, and the attachment is ready for work. You can plane to an absolute thickness, or make a complete sizer of this, the same as the standard pony planer.

The base of the jointer is cast in one solid piece; being fitted with a four-side slotted forged steel head, boxings are large and heavy, being babbitted with a very high grade of babbit metal, and are fitted with wick oiling bearings in bottom of boxes; these are fed from oil cups on side of boxes. The tables are perfectly true, and are 7 feet 3 inches over all, being 4 inches wider than the knives. With this power-feed planing attachment, arrangements can be made for making all kinds of flat moldings, making a power feed molder as well as a power feed planer out of the machine. This machine is especially convenient where space is valuable. Briefly this is two makes in one, at the price of one. The countershaft is furnished with this machine and it would pay you to write the Sidney Tool Company, of Sidney, Ohio, at once for particulars, as they have special folders on this outfit.

They Have Inquired, They Have Tried, Read the Results

Such is the title of the book we have just received from one of our largest advertisers, and a more conclusive piece of literature that entirely expresses facts has never been brought to our notice.

The book produces some of the letters that have been sent to Joseph Miotke, 247 Lake street, Milwaukee, Wis., who is the inventor and manufacturer of the Acme floor scraping outfit. These letters show just how Mr. Miotke sends his machines out on a free trial basis and what the parties so receiving them write. It is indeed a piece of advertising matter that inspires one with confidence, for it gives the plain facts regarding the merits of the Acme floor scraping outfit, which, by the way, consists of labor-saving devices that means hundreds of dollars to every carpenter and contractor, and it

likewise shows that Mr. Miotke's free trial offer has no strings tied to it and that he does just exactly what he says he will do in every respect.

We are informed that Mr. Miotke will be pleased to send this book to any interested party.

Draftsmanship for the Carpenter and Builder

When business and building operations are booming, it is an easy matter for the average young man to get and hold a job. But when things get slack—when there are few jobs to be had and then a host of applicants for each, it's the time the man with special training or knowledge comes strongly into the limelight.

Perhaps the best reason why "John" is working—and there are dozens just as strong and willing as he, who are out of work—rests simply on the fact that "John" does not have to ask questions about the plans or blue prints he is working from.

It doesn't seem much perhaps even to the man who has spent his spare time studying, but it sure does help at times to know even just a little bit more than the other fellow.

Draftsmanship to the carpenter or contractor is an important item. There are lots of good schools to be found along this line if a person can afford to travel a long distance and live in a strange city for months, but it is hardly necessary to do this.

Mr. Dobe, of the Engineers' Equipment Company, Chicago, has a course of individual instruction in draftsmanship which is first-class in every respect. He has many satisfied men who have taken his individual courses to refer the doubting ones to.

Mr. Dobe has had some twenty years' experience as a draftsman, and he knows what a fellow is up against in taking a course of instruction by mail. Everything must be plain and practical.

Mr. Dobe's catalogue shows that his course of instruction is plain and practical, and therefore worth taking.

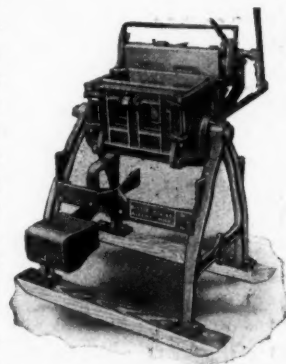
His announcement appears on another page. Look it over.

Besser Cement Blocks

We have received an extremely valuable and interesting book from the Besser Manufacturing Company, Alpena, Mich., telling all about the modern concrete block business and especially what can be done with the well known Besser cement block machines. Among other facts presented in this book it is pointed out that the advantages of cement blocks for building purposes are rapidly becoming very thoroughly understood. Other materials resist fire, but disintegrate when white hot upon the application of water. Cement will not only stand the fire and heat, but the application of water as well, and for this reason is the only material to withstand a fierce fire and its consequences, and come through unscathed. This means your home can be absolutely safe from fire. It means absolute protection for your goods, and very low insurance rates.

The greatest advantage of a structure built of concrete blocks lies in the fact that all concrete blocks have hollow air spaces.

A solid wall is one of the best conductors of heat, and air on the contrary is one of the poorest. (All contractors and



Our Greatest Merchandise Sale!

Of all our Wonderful Sales of the past none approaches the one we are advertising today. We propose to give the great buying public the benefit of our wonderful operations. No other concern on earth can meet the prices we place

CHICAGO HOUSE WRECKING CO.

on our goods. We are offering the most staple merchandise at prices which in most instances do not represent the original cost of manufacture. If you fail to take advantage of this offer you are certainly overlooking an opportunity which may never again occur.

Sheriffs', Receivers' & Manufacturers' Sales!

Our WONDERFUL CATALOG

We have published a BRAND NEW CATALOG, different than any other previously issued by us. It is twice as big; it gives the history of our business and tells all about our WONDERFUL OPERATIONS; contains over 50,000 BARGAIN OFFERS in every line. Gives illustrations true to the articles described. It contains 16 pages in natural color reproductions showing all articles true to life in every detail. It describes more fully, the various articles offered in this advertisement. It is a book such as every BARGAIN SEEKING MAN OR WOMAN must have in his or her possession. If you fail to secure a copy you will make a mistake. It is FREE if you'll follow directions in this advertisement.

How to Answer This Advertisement

The best way to answer this advertisement is to FILL OUT THE COUPON in the lower left-hand corner. Tear the page out and place a cross mark on such articles as interest you most. We will then MAIL YOU OUR LITERATURE pertaining to the articles in question, as well as send you a copy of our MAMMOTH CATALOG; in addition we will describe more fully such articles as most interest you. If, however, you do not wish to mutilate this page, write us on a POST CARD, telling us WHERE YOU HAVE SEEN THIS ADVERTISEMENT, and just what articles interest you most. If your wants be in a general way only, then merely fill out the coupon in the lower left-hand corner, and we will MAIL YOU OUR GENERAL CATALOG.

Furniture

Over \$300,000.00 of high-grade, brand new furniture, carpets, rugs and linoleum; everything needed to furnish your home complete. No shoddy furniture in our stock. It is the best that can be manufactured. It is built for the taste of people who know real quality. Our goods are bought at Sheriffs', Receivers' and Manufacturers' Sales. That gives us a big advantage over any possible competition and the public gets the benefit of our buying operations. Write for prices on any article you may require. Our general catalog shows all our wonderful furniture stock. When in Chicago visit our monster furniture sales rooms, the largest in America.

Steel Roofing

100,000 sqs. of New Steel Roofing which we are selling at the following prices: Freight Prepaid: Flat \$1.60, Corrugated \$1.85, Crimped or Standing Seam \$1.85. At these prices we Prepay the Freight to all points east of Colorado except Oklahoma and Texas; quotations to these points on application. Our high grade Galvanized Steel Roofing at prices ranging from \$2.00 per square up. Write today for Free Sample.

OUR BINDING GUARANTEE

We GUARANTEE that every article you purchase from us will be EXACTLY AS REPRESENTED in every way. If you secure any merchandise from us not exactly as represented, we'll TAKE IT BACK at our FREIGHT EXPENSE and REFUND YOUR MONEY in full. We will in every instance "MAKE GOOD." We know full well the value of a SATISFIED CUSTOMER, and we will try our utmost to PLEASE YOU. We number over 100,000 customers who are regularly sending us their orders for general supplies, and we earnestly solicit just an opportunity to prove the virtue of our business for your INDIVIDUAL PURPOSE.

In every line of SUPPLIES and MERCHANDISE we can SAVE YOU MONEY, and BACKED BY OUR BINDING GUARANTEE you cannot "GO WRONG." Our CAPITAL STOCK and SURPLUS is over \$1,000,000.00. We refer you to any bank or banker anywhere; to any express company; to the mercantile agencies; to the publisher of this or any other periodical; or, you can write direct to our Depository, THE DROVERS' DEPOSIT NATIONAL BANK, UNION STOCK YARDS, CHICAGO.

We will ship ANY ARTICLE shown in this advertisement C. O. D., with PRIVILEGE OF EXAMINATION, provided you send us a deposit of 25% on account as evidence of good faith, the balance after material reaches destination and you have had an opportunity to examine and see that you have secured the articles that you have ordered. If the goods are not what you expected WE WILL REFUND your purchase price, bringing goods back to Chicago at OUR EXPENSE. You are SAFE at all times in dealing with us. We would advise that you send us an order at once selected from this advertisement.

RUGS—9x12 Ft.

SHIRAZ—\$46.50—extensive variety of beautiful patterns, oriental or floral designs, rich color combinations. These Rugs are reversible and may be used on either side, thus giving you the service of two floor coverings for the price of one. All absolutely new and perfect. We also carry all other high-grade Rugs.



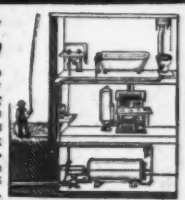
Gasoline Engines—2 horse-power, strictly high-grade, brand new Gasoline Engine at \$49.75, fully guaranteed, complete in every respect.

Price includes igniter, battery, lubricator, and in fact complete outfit ready for use. This engine is simple to operate. We will sell on 30 days' free trial, so you take no chance in your purchase. A five-year guarantee against defective workmanship or material. Gasoline Engines in all sizes. Complete stock of Steam Engines, Rollers, Machinery. Write for Special List.



Water Pressure System

Modern Air Pressure Water Works Supply Systems at prices ranging from \$48 to \$200. They are strictly new and first-class in every detail. Our book of Plumbing and Heating, which we mail free of charge, tells all about them. Enjoy city comfort.



Plumbing Material—90¢ buys our special flat rim, cast iron, white enamel Kitchen Sink, new but slightly defective. Price includes strainer and coupling. \$6 buys an enamel Bath Tub. \$10 for a cast iron, roll rim, white enamel Bath Tub. \$9.50 for white enamel low down tank. Water Closet, complete outfit. Wash Stands at \$2.50.

We furnish everything needed in Plumbing Material. Special Instruction Book mailed free.

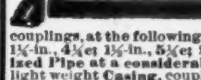


Genuine Leather Couch—\$9.75. Quarter sawed oak frame, diamond tufted top.

A Wonderful Bargain! Oil tempered spring construction, warranted to give perfect satisfaction. It is 76 in. long and 37 in. wide. It is upholstered with a good quality of genuine leather. It's the very best "buy" in a leather couch.



Pipe & Fittings—A complete stock of overhauled Black & Galvanized Iron Pipe at prices lower than you can purchase elsewhere. A good grade Black Pipe, threaded and complete with couplings, at the following prices per ft.: 1-in., 8¢; 1½-in., 4¢; 2-in., 5¢; 2½-in., 5¢; 3-in., 7¢. New Galvanized Pipe at a considerable saving. Lap welded, light weight Casing, couplings complete: 2-in., per ft., 5¢; 4-in., per ft., 14¢. Other sizes at same low prices. Complete stock of Valves and Fittings.



Linoleum—\$1c per sq. yd. Exactly like illustration. Absolutely new and perfect, no cracked or soiled pieces in the entire lot. We have hundreds of other beautiful patterns in rich colors, consisting of beautiful tile and floral designs, in various patterns illustrated in our large free catalog.

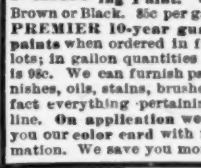


Hardware—Lanterns at... \$0.25. Axes at... \$0.50. Hatchets at... \$0.50. Locks up from... \$1.00.

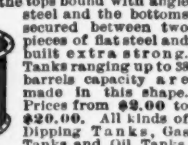
These are samples from our General Catalog, our Wonderful Price Maker. There isn't an article in the Hardware Line but what we can furnish it to you at Extremely Low Prices. Our entire stock is new, nice, clean goods—just as good as you can purchase anywhere, and Prices Are Right. You had better Get Our Quotations before you buy from anyone else.



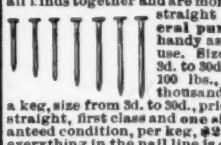
Paint—\$7c buys our high-grade "Allen" Roofing Paint. We can furnish in Red, Brown or Black. 85c per gallon is our price for our PREMIER 10-year guaranteed ready mixed paint when ordered in full barrel lots; in gallon quantities our price is 92c. We can furnish paints, varnishes, oils, stains, brushes, and in fact everything pertaining to the line. On application we will mail you our color card with full information. We save you money.



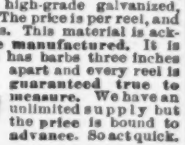
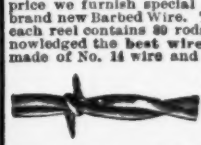
Tanks—32-Gallon, Round, Galvanized Steel Tank for \$2.00; made of 30-gauge galvanized stock; the tops bound with angle steel and the bottoms secured between two pieces of flat steel and built extra strong. Tanks ranging up to 38 barrels capacity are made in this shape. Prices from \$2.00 to \$20.00. All kinds of Dipping Tanks, Gas Tanks and Oil Tanks.



Nails—We purchased a cargo of nails in a recent steam-boat disaster. These nails are mixed all kinds together and are more or less rusted, but are straight and good for all general purposes. Makes a fine, handy assortment for all around use. Sizes ranging from about 3d to 30d. Our price per keg of 100 lbs., \$1.50. Also several thousand kegs nails one size to a keg, size from 3d to 30d., price per keg, \$1.75. Nails straight, first class and one size only to a keg, guaranteed condition, per keg, \$2.50. Wire Staples and everything in the nail line is offered at a big saving.



Barbed Wire \$1.75 Per Reel! At this price we furnish special high-grade, galvanized, brand new Barbed Wire. The price is per reel, and each reel contains 80 rods. This material is acknowledged the best wire manufactured. It is made of No. 14 wire and has three inches apart and every reel is guaranteed true to measure. We have an unlimited supply but the price is bound to advance. So act quick.



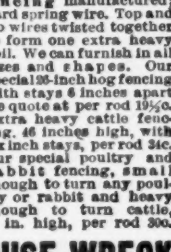
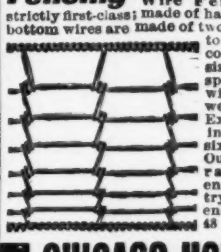
CUT OUT THIS COUPON

CHICAGO HOUSE WRECKING CO., - CHICAGO

I saw your full page advertisement in "Amer. Carp. & Bldr." Send me free of all cost your Large General Catalog 742. I am interested specially in

Name
Town and County
R.F.D. P.O. Box State

Fencing—The Best Galvanized Woven steel mesh fencing made of hard spring wire. Top and bottom wires are made of two wires twisted together to form one extra heavy coil. We can furnish in all sizes and shapes. Our special 12-inch hog fencing with stay 6 inches apart we quote at per rod 15¢. Extra heavy cattle fencing, 48 inches high, with six inch stays, per rod 34¢. Our special poultry and rabbit fencing, small enough to turn any poultry or rabbit and heavy enough to turn cattle, 48 in. high, per rod 30¢.



Doors & Windows 20,000

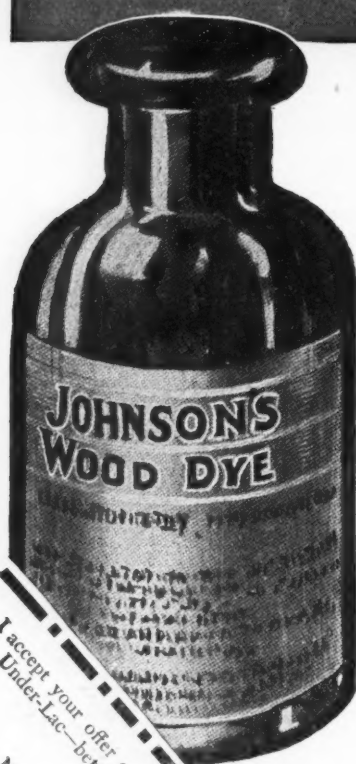
Windows, brand new, first class, at 15 to 50% saving. The most Staple Sizes are included in this lot. We also have a complete stock of Mill Work, including windows, doors, frames, interior trim, and in fact everything needed to construct or improve your building. Our Prices are Lower than you can get anywhere else. All material is first class stock of Standard Manufacturer. We will save you 40% or more. Write now.



CHICAGO HOUSE WRECKING COMPANY, CHICAGO

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER

Special Free Working Samples to and Wood Finish



Johnson Pays the Postage—Will

WE WANT you to find out at *our expense* how much better work you can do, how much time you can save, how much better satisfaction you can give your trade by using these Johnson Materials. The package we want to deliver to you, without cost, contains a generous sample of **Johnson's Wood Dye—Johnson's Plasto-Filler—Johnson's Under-Lac** and Johnson's illustrated guide book on home-beautifying, containing complete color card and full directions for finishing and refinishing wood.

Johnson's Wood Dye

Made in 14 Standard Shades

No. 126 Light Oak	No. 128 Light Mahogany	No. 121 Moss Green
No. 123 Dark Oak	No. 129 Dark Mahogany	No. 122 Forest Green
No. 125 Mission Oak	No. 130 Weathered Oak	No. 172 Flemish Oak
No. 140 Manilla Oak	No. 131 Brown Weathered Oak	No. 178 Brown Flemish Oak
No. 110 Bog Oak	No. 132 Green Weathered Oak	

Price—(All Shades)— $\frac{1}{2}$ -gallon size, \$1.50

When you once use Johnson's Plasto-Filler, putty or plaster of paris will never satisfy you for filling cracks, holes, crevices or depressions in walls, woodwork or floors. Comes in a handy carton.

Mix Johnson's Plasto-Filler with water to the proper consistency, and apply with a putty knife.

S. C. Johnson & Son,

"The Wood Finishing"



I accept your offer of a sample of Johnson's Wood Dye, Johnson's Plasto-Filler and Johnson's Under-Lac—better than varnish or shellac—also book edition ACR 10

PLEASE USE THIS FREE COUPON

Name.....

Address.....

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER

The Offer of Painters, Decorators is Everywhere.

You Send Your Name and Address Now?

YOU have a perfect, non-shrinking, adhesive filler that will not shrink, crack or come out of place. Johnson's Plasto-Filler retails at 20c per pound for the one and two-pound packages and in bulk at 15c per pound. It costs less per pound than other fillers and a pound will go twice as far.



Johnson's Plasto-Filler

is entirely different from any filler on the market. Try it and see.

We want you to know, too, how much better Johnson's Under-Lac is than shellac or varnish. It forms a thin, hard, glossy, elastic veneer over the wood, which will not show scratches, water-stains or heel-marks. One coat of

Johnson's Under-Lac

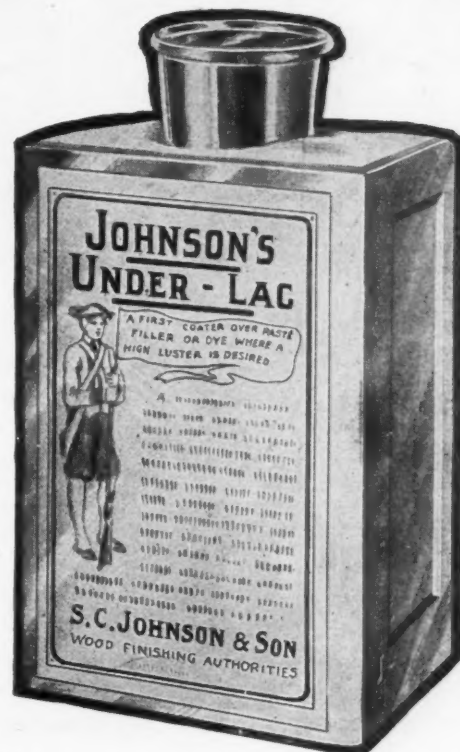
and one coat of varnish will give a higher gloss and more durable finish than three coats of varnish without the Under-Lac. For a higher gloss we recommend a coat of Under-Lac over Wood Dye or Paste Wood Filler, and then one coat of Johnson's Prepared Wax, for that "hand-rubbed" effect. Price \$2.50 per gallon.

Now, it is a generous sample of these three articles which we send you, entirely free and post-paid; also our text book on the proper treatment of floors, woodwork and furniture.

Don't forget to mention the color of Dye you want.

Racine, Wis.

Authorities"



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER

builders try to put up their buildings with air spaces in walls.) All concrete blocks are made with hollow air spaces on the Besser machines. A wall built of Besser blocks is therefore almost impervious to heat, cold or moisture (since air is practically a non-conductor of these elements). The air space keeps the cold from passing in, conversely the heat from passing in during the hot summer months.

The result is a cooler house in summer, and not only a warmer house in winter, but a house that costs less to heat by 25 per cent, and 25 per cent off your fuel bill means a considerable saving in the course of time.

Ventilation is another advantage of hollow block construction. A thorough circulation of air may be established through the air spaces and thus take off the noxious gases and vapor of the air. Another advantage is that the air space may be used without extra expense for all wiring, piping, etc.

The cost of building operations with blocks is cheaper than with any other material. There are no painting bills. A mason or bricklayer can lay blocks much cheaper than brick to fill the same space. With the blocks in place there need never be anything more done to the exterior of the house.

Concrete blocks, by applying a thin facing to the exterior, can be made to give any desired appearance or any desired color.

The plasticity of concrete allows of any form or ornament being used.

The use of cement blocks for building purposes is in its infancy. It will grow by leaps and bounds during the next few years. Two hundred dollars, and even less, is all that is necessary to start in the business of manufacturing cement products.

With this small outlay you will be able to compete with, and undersell, in most cases, manufacturers of pressed brick and

stone. You can add the extra machines your business demands as it grows—out of the profits. Others have done this. Why not you?

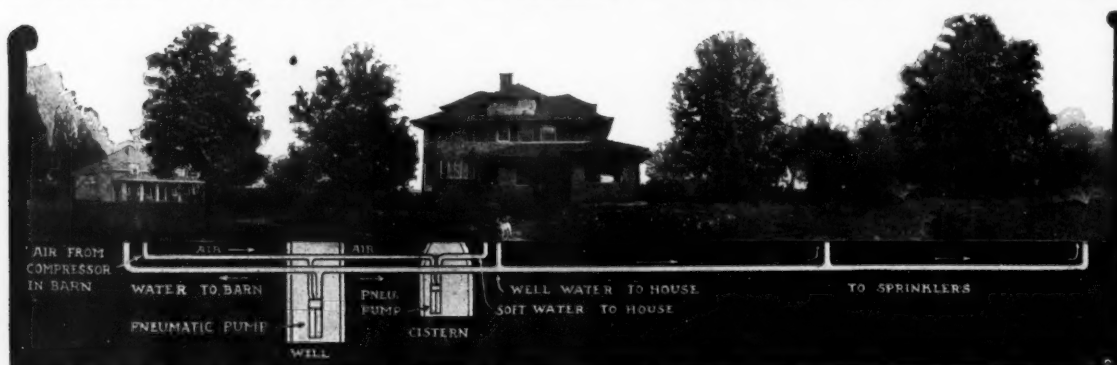
Simonds Saws Win Grand Prize

The jury of awards who examined the exhibits and rendered decisions on the saw displays at the Alaska-Yukon-Pacific Exposition, Seattle, Wash., had a very difficult job on its hands, as there was keen competition for first honors among the four firms exhibiting. The jury was composed of five men selected on account of their thorough knowledge of the general steel business. All of them might be called experts in their particular lines. Their deliberations required several days' time and the result, which awarded to Simonds saws the grand prize and to the other three an equal division of second prize, was based on careful tests of the saws, also on a knowledge of the high general reputation of the Simonds saw line throughout the lumber industry.

New 36-Inch Band Re-Saw

The accompanying engraving represents the Defiance Machine Company's new No. 6, 36-inch band, scroll, rip and re-sawing machine, which is a most conveniently arranged tool for doing various kinds of band scroll sawing, ripping and re-sawing lumber. It is a combination of three machines in one, and it can be changed in a few moments' time from one class of work to the other. It has proven to be a general favorite among woodworkers. It is suited to the very finest scroll sawing required in piano and organ factories, pattern shops, fancy woodworkers, etc., as well as the heavier kinds of work such as sawing plow beams, wagon and carriage wood stock, agricultural implement parts, ship and car work. All the adjustments of this machine are so perfect that it can

Fresh Water or Tank Water in Your Home?



There is only one domestic water system that distributes water under pressure, direct from the source of supply to the faucets, without a storage tank. FRESH WATER at all times, continuous supply to any height, with a steady, even pressure at the faucets, with the lowest cost of operation, and no unsightly water tank to mar the beauty of the grounds—these combined advantages can be had **only** with the

PERRY PNEUMATIC WATER SYSTEM

In all other systems pressure is created by forcing into a tank a large **reserve supply of water**, which is stored for varying lengths of time until used.

In the Perry Pneumatic System **NO WATER IS STORED. No accumulation of foul water.**

A Perry Pneumatic Pump, placed in the well and operated by compressed air, keeps a constant pressure of water at the faucets, operating only when water is drawn.

Air-compressing outfit is small and compact, and can be located at any distance from the well. Any power may be used to compress air. **One air-compressing equipment** can be used to supply **both hard and soft water.** The most economical System in cost and operation. The Perry System operates in wells, cisterns, lakes, springs or small driven wells.

Endorsed by prominent Architects and Engineers.

Our engineers are at your service. Write for descriptive booklet.

UNITED PUMP & POWER COMPANY

485 Old Colony Building
CHICAGO, ILLINOIS

Perry Pneumatic
Pump
Domestic Size.



**P.S. & W.
MECHANICS'
HANDY LIST**

THE MARK OF A MAKER

**THE PECK, STOW & WILCOX CO.
MANUFACTURERS**

Every Carpenter Should Have this 160 Page Book in His Tool Chest

It will be sent free.
Simply write your name and address on a postal card and say, "Send me your Handy List."

The book contains a complete catalog of 200 mechanics' hand tools—the largest line offered by any one manufacturer.

It also contains 30 compact pages of handy reference tables and valuable information.

P. S. & W. Carpenters' Tools are for sale by hardware and tool dealers all over the world, and are backed by 90 years of tool-making experience and ability.

Every single tool we send out *has been made by us*. When you see our brand you *know who made the tool*.

That is important, for if you don't know who made your tools you can't be sure of the quality.

The Peck, Stow & Wilcox Co.
MANUF'RS of the Largest Line of Mechanics' Hand Tools Offered by Any Maker
Established 1819 Five Large Factories
Address Correspondence to
22 Murray Street, New York City

A Sharpening Stone Novelty



Designed for the
Carpenter's Bench

The Carborundum Round Combination Stone

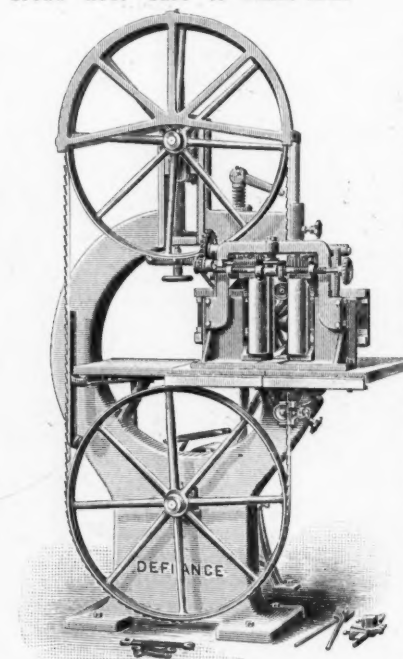
Its shape and size allow for the rotary motion required in sharpening chisels, plane irons, etc. With the ordinary rectangular stone a square inch or two is used and the rest scarcely ever touched. With the round stone all of the cutting area—twelve square inches—enough for the widest tools—is brought into play and there is no unused surface—besides, it has the fast, keen-edge producing Carborundum qualities.

Price, One Dollar
Quartered oak box holder, Fifty Cents

Ask your dealer or
THE CARBORUNDUM COMPANY
Niagara Falls, N. Y.

be run constantly without injury to the saw blade or the machine.

The frame of modern design, is cast in one piece, with cored center, making it strong and reliable, and provided with a broad floor base to stand firm.



The saddle supporting the upper wheel is accurately fitted to the frame in planed and scraped angle-ways; it is adjustable vertically by hand wheel and screw to accommodate various lengths of saw blades, taking at the longest a saw 18½ feet.

The saw wheels are 36-inch diameter, 2½-inch face, covered with solid endless rubber bands ¼ inch thick, which are ground true, given a running balance by a patent method, making them capable of running at a high rate of speed entirely free from vibration.

The patent tension device is provided with a compression spring in connection with the upper wheel, which provides the exact amount of tension to the saw under all conditions, instantly accommodating itself for light or heavy sawing unlike the old-style weight affair, which is cumbersome and slow to act. It is a well known fact that a spring will act 100 times quicker than a weight, which means that the spring tension will meet and correct 100 variations in the strain of the saw while the weight is getting in motion to take care of one, and very likely, because of its inertia, missing that. The saw will cut perfect work only when the tension is accurate. By a single hand screw, the upper saw wheel can be tilted while running to lead the saw to any path desired over the face of the wheels.

The table, of iron, is 30 by 34 inch, planed true and arranged to tilt to 45 degrees angle for bevel sawing. The top is laid off in inches and fractions and fitted with a patent rip-saw gauge, to be used for ripping lumber. This gauge can be instantly placed on or removed from the machine. Patent non-friction guides are used above and below the table, and they are warranted not to heat or injure the saw blade.

The re-sawing attachment consists of four vertical feed rolls, all powerfully driven, with three changes of feed to saw 20, 30 and 40 feet per minute, and it will accommodate material up to 12 inches wide by 4 inches thick, or any sizes under, and it will saw the stock parallel or beveling, and to any thickness required.

This machine measures 36 inches from the inside of the frame to the center of the table, giving ample room for wide sawing. When the guide stem is lifted to its highest position, it will take work 12½ inches thick.

All spindles are of ground steel and run in long self-lubricating bearings.

The tight and loose pulleys are 14-inch diameter, 4-inch face, and provided with an improved belt shipper, to be operated from the front side of the machine, and they should run 500 turns per minute. The loose pulley is fitted with bronze bearings and a self-oiling device.

Horsepower to drive, three; floor space occupied, 42 by 60 inches. For further information concerning this new wood-

I want to tell you why the Maxwell offers the greatest value for \$1,500. The reasons below must be clear to every thinking person. Won't you please read why?

Benj. Briscoe PRES.

Maxwell

Perfectly Simple — Simply Perfect



Four Cylinder 30 H.P. Touring Car

A car even better for \$1500 than we could build last season for \$1750. Longer wheel base, larger wheels, more powerful engine, a big, roomy, stylish body. We give you without extra charge a magneto, gas lamps and generator—over \$150 worth of extras that you pay for in other cars.

\$1500 and Even Better

This for \$250 Less

A car even better than our four cylinder 30 H. P. of last season at \$1750. A car even better than the model which ran 10,000 miles over country roads without stopping its engine. A car even better than the MAXWELL that was driven by Mrs. John R. Ramsey and her three women companions from New York to San Francisco. A car even better than the MAXWELLS which won first and second places in class D of this year's Glidden Tour. In short, a car that combines MAXWELL reliability with style, comfort and luxury.

Where We Have Added Value

We have increased the power of the engine 17%—although we rate it 30 as last season. We give you 34 x 4 inch tires—this means economy. We have changed the rear spring suspension from semi-elliptic to $\frac{1}{2}$ scroll—this means comfort. We have lengthened the wheel base 4 inches—the body is longer, the rear seat wider. These changes add to the easy riding qualities of the car. The magnificent new body gives it style—yet you save \$250 on a better car.

What Do Owners Say?

MAXWELL owners tell us that no car is so economical to keep. Read what this one says—it is a sample of what over 18,270 owners say about the MAXWELL.

Howard Street, Baltimore, Md., Nov. 6.
Maxwell-Briscoe Motor Co.

Gentlemen: You will be interested to know that my Maxwell has been driven at least 20,000 miles over all kinds of roads, and it is a pleasure to give it my enthusiastic approval.

This applies to its wearing qualities and general reliability, no less than to its strength of construction and simplicity of mechanism.

Yours truly,
J. W. WIESENFELD.

Don't Be Disappointed

The demand for MAXWELLS has in the past exceeded the supply. May we send you our illustrated catalog and name of the nearest dealer who can fill your order promptly?

We Also Make

Model "Q" 4 cylinder 22 H. P. runabout, sliding gear transmission, 3 speeds forward. Magneto equipped, price standard runabout, \$850. Three styles of body.

Our model "A.A.," 12 H.P. runabout at \$550 is the greatest value ever produced. Costs less to own than a horse and buggy—costs no more to buy.

SALE OF MAXWELLS TO DATE

Sold to July 31, '09	- - -	17,600
Sold during August, '09	- - -	678
Maxwells in use today	- - -	18,278


WATCH THE FIGURES GROW

Maxwell-Briscoe Motor Co.

Main Office and Factory

FORK STREET, TARRYTOWN, N. Y. 335

OTHER FACTORIES

New Castle, Ind. 
Pawtucket, R. I.
Providence, R. I.
Kingsland Point, N. Y.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER



Salaries Raised Every Month

Just to prove that we can raise **your** salary.

And if one thing more than another proves the ability of the International Correspondence Schools, of Scranton, Pa., to raise the salaries of poorly paid but ambitious men and women it is the monthly average of 300 letters voluntarily written by students telling of salaries raised and positions bettered by I. C. S. Training. In one year there was made possible for I. C. S. Trained men increases in salary amounting to **over twenty million dollars!** These results mean something. They prove that I. C. S. Training is the most powerful force for promotion in the world.

Hundreds in the poorest circumstances, young men and old men; men living in all corners of the world; men working for small wages with unsteady employment have taken the first step to better themselves by using an I. C. S. coupon and as a result have doubled, tripled, and quadrupled their earnings. You can do the same if you have the will power to start. At least investigate the plan for promotion that has been more successful than any other the world has ever seen. You do not have to lose time from your present work, leave home, or buy books. Only a small part of your spare time is required. Mark and mail the coupon **NOW**.

International Correspondence Schools

Box 910, SCRANTON, PA.

Please explain, without further obligation on my part, how I can qualify for a larger salary and advancement to the position before which I have marked X.

Architect
Arch'l Draftsman
Contractor & Build.
Building Inspector
Structural Eng.
Struct'l Draftsman
Plum. & Heat. Con.
Supt. of Plumbing
Form, Steam Fitter
Plumbing Inspect'r
Heat. & Vent. Eng.

Estimating Clerk
Bridge Engineer
Civil Engineer
Surveyor
Mechanical Eng.
Mechan'l Drafts'n
Stationary Eng.
Electrical Engineer
Electrician
Elec.-Light, Supt.
Elec.-Rail'y Supt.

Foreman Machinist
Sh.-Met. Pat. Drfts.
Mining Engineer
Textile Expert
Bookkeeper
Stenographer
Ad Writer
Window Trimmer
Illustrator
Civ. Service Exams.
Chemist

Name _____

Street and No. _____

City _____

State _____

working machine, address the Defiance Machine Works, Defiance, Ohio, U. S. A.

Huther Bros. Saw

Huther Bros. Saw Manufacturing Company, Inc., was established in 1880 and incorporated in 1906, during which interval and since which time they have been manufacturing a very high grade of saws.

Their solid tooth circular saws are made from the best grades of steel, and their goods are gotten out by the best mechanics that good wages and fair treatment can procure, under the personal supervision of expert saw makers.

They make a full line of shingle, edger and heading saws, special attention being given to the grinding and straightening of same. They also manufacture a full line of circular knives for cutting cloth, cork, etc., circular milling saws and cutters, saw mandrels and planer knives. However, a large part of the product of their factory consists of special saws, including turned or beveled face saws for cutting beading, molding or special shaped grooves, and lock corner cutters with teeth of same relieved so as to do away with all friction when in operation; special hollow ground saws for smooth cutting either with or across grain, and the same kind of a saw made with combination tooth so that it can be used to cut both with or across the grain, which saw is especially desirable when a little of each is necessary and the operator cannot take time to change the saw as is the case in pattern shops and packing rooms.

Their patent groover or dado head is used universally by woodworkers in all parts of the world, for cutting grooves either with or across the grain and of any width or depth. These heads are composed of two special outside saws or blades, which have beveled sections thus giving the cutter the combined cutting qualities of a knife and a saw, and special two-tooth inside cutters which are made up 1/16-inch, 1/8-inch and 1/4-inch thick. In order to cut grooves of different widths, all that is necessary is either to add or take away the inside cutters. These dados are an excellent tool for manufacturers of furniture, sash, doors, blinds and carriage bodies, in fact, for anyone who has a saw mandrel, as they can be used for various kinds of work, and Huther Bros. send their grooving head to all parts of the world under condition that if same does not prove satisfactory after ten days' trial, it may be returned and transportation charges both ways paid by them.

For box factories, their celebrated patent matcher cutters are supplied, which cutters are made similar to their outside patent grooving saws and are arranged to do either single matching or double matching where stock of double thickness is tongued and grooved for two boards at one operation, after which it is resawed.

For the cooperage trade, they manufacture a line of regular and special concave saws and straight or concave chamfering saws, as well as their patent groover concaved so as to cut a groove or rabbet on the tops of candy pail covers, or to do other similar work.

Band saws manufactured by this firm are made from a very high grade of imported band saw stock, noted for its high tensile strength and length of time it will hold a good cutting edge. These saws are either cut to length and brazed, or furnished in coils, special attention being given to the tension of the wide band, rip and re-saws.

Their milling saws are made from special high grade carbon steel and high speed steels, with very hard temper and micrometer ground giving perfect accuracy in clearance on sides.

In conclusion we would call your attention to their scraper blades. Instead of using an ordinary stock for the blades, they are made from stock similar to that used in the manufacture of milling saws. These blades are guaranteed to hold

Why Carey's Roofing Insures Right Results



THE Philip Carey Mfg. Company are the oldest and largest manufacturers in the United States of a uniform grade and quality of roofing. Because their organization covers this entire country and Canada; they are thoroughly equipped to handle any contract roofing work, and to apply the Carey Roof Standard to any class of buildings for Architects, Builders or Property Owners.

Carey's Roofing is finished and completed at the factory under their direct supervision.

Satisfaction is guaranteed on all contract work entrusted to their care.



means absolute uniformity. It is standard in manufacture, quality and weight—year in and year out—the world over.

Carey's Roofing has been on the market for over twenty years, and the original design and plan of construction and same uniform grade of materials have been strictly adhered to—because they have proved their superiority as a roofing construction.

The materials of the Carey Roof actually improve with age and exposure, and may be perpetuated to last the life of the building. The inner cement com-

pound retains its elasticity. The manufacturers have samples of Carey roofs that have given 15, 18 and 20 years of service that are as flexible—in as good condition—as when first applied.

The Patented Wide Lap (a special Carey feature) thoroughly protects the nail-heads and seam, and insures an absolutely water-tight and wind-proof joint.

A sample of Carey's Roofing and Carey's Roofing Book will be gladly sent on application. Detailed estimates and specific information on any point desired. Address

The Philip Carey Manufacturing Company

30 Wayne Avenue, Cincinnati, Ohio

FORTY-FIVE BRANCH OFFICES AND DISTRIBUTING POINTS:

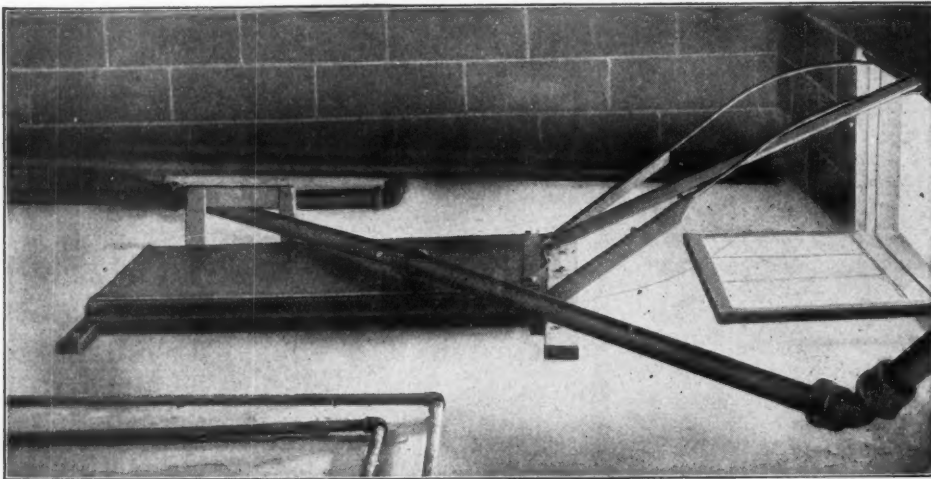
The Philip Carey Co., Atlanta, Ga.	The Philip Carey Co., Dallas, Tex.	The Philip Carey Co., Montreal, Que.	The Philip Carey Co., Seattle, Wash.
" " " " Baltimore, Md.	" " " " Denver, Colo.	" " " " Nashville, Tenn.	" " " " Syracuse, N. Y.
" " " " Birmingham, Ala.	" " " " Detroit, Mich.	" " " " New Orleans, La.	" " " " Toledo, Ohio
" " " " Boston, Mass.	" " " " Harrisburg, Pa.	" " " " New York, N. Y.	" " " " Toronto, Ont.
" " " " Buffalo, N. Y.	" " " " Havana, Cuba	" " " " Newark, N. J.	" " " " Washington, D. C.
" " " " Charlotte, N. C.	" " " " Jacksonville, Fla.	" " " " Supp. Co., Omaha, Neb.	" " " " Wheeling, W. Va.
" " " " Chattanooga, Tenn.	" " " " Kansas City, Mo.	The Philip Carey Co., Philadelphia, Pa.	" " " " Winnipeg, Man.
Western Rfg. & Supp. Co., Chicago, Ill.	" " " " Knoxville, Tenn.	" " " " Pittsburg, Pa.	" " " " Youngstown, O.
The Breese Bros. Co., Cincinnati, O.	" " " " Little Rock, Ark.	" " " " Norfolk, Va.	Western Asbestos-Magnesia Co.,
The Col. Rug. & Supp. Co., Columbus, O.	" " " " Memphis, Tenn.	" " " " Rochester, N. Y.	San Francisco, Cal.
The Philip Carey Co., Cleveland, Ohio	Warren & Bailey Mfg. Co., Los Angeles, Cal.	" " " " Scranton, Pa.	Nott-Atwater Company, Spokane, Wash.
	W. S. Nott Company, Minneapolis, Minn.	" " " " St. Louis, Mo.	

an edge, after same has been turned, three or four times as long as the ordinary blade. Same are furnished either in black, or bevel ground.

For several years the goods produced by Huther Bros. Saw Manufacturing Company, Inc., have been recognized as a high standard in the saw-makers' art—those having used their product will acknowledge this fact, others will after trial.

Steel Folding Coal Chute

The coal window with the battered frame and the base-board shattered and broken is sometimes the only unsightly thing to be seen around an otherwise well-kept residence.



In these modern times it seems that these nuisances should be done away with; consequently, the coal chute has appeared. True, the old wooden coal chutes have been used

for many years, but they seem very much out of place around a modern building. The Taylor steel folding coal chute, manufactured by the Taylor Coal Chute & Manufacturing Company, 432 Prospect place, Kewanee, Ill., seems to overcome all difficulties. In the one city of Kewanee, Ill., there are over 400 of these coal chutes now in use, and in the seven years that they have been installed not five dollars have been spent for their up-keep.

The chutes are complete for any style of building—whether new or old, brick or stone, finished or still under construction. It is a fact that more of these coal chutes have been installed in old or newly finished houses than in houses that are in process of erection. It pays to put in a Taylor coal chute before painting your residence. It will protect the paint and keep the coal window as neat as any of the other windows. The Taylor coal chute can be used for two or more windows by simply ordering attachments for extra windows.

The coal chute is not a luxury. It is a positive necessity and every builder should install these in every building that he is erecting or has erected. The cuts here show you how the coal chute looks when in use and when not in use. When not in use it is out of sight, the window shuts down and looks exactly as the other base-

ment windows, leaving no chance for cold air or wind to get in and raise a dust.

If you are interested, write the Taylor Coal Chute Manu-

**We
Want
To Tell
You
How**

**You Can Put Every Cent of the Dealer's
Profit Into Your Own Pocket**

You can save not only the dealer's profits but his excessive charges for installation and repairs.

You can deal direct with the manufacturers.

The Jahant Down-Draft Furnace

**Only Ten Dollars Down and Ten Dollars a Month With
Freight Prepaid East of the Mississippi River.**

This wonderful furnace has proven its superiority over others during the last **thirty years**. It is without a doubt the best heating system ever devised.

It saves from one-third to one-half in fuel bills, because the patented down-draft burns hard or soft coal, wood or lignite, without cinders or clinkers, giving the full heating value of every particle of fuel.

THE JAHANT DOWN-DRAFT FURNACE

is scientifically correct. Every part is cast of the best New Gray Pig Iron; no sheet steel is used; the fire pot will last a lifetime; **cracking is impossible**.

A strong "Guaranty Bond" goes with every JAHANT, which allows a **three hundred and sixty day free use of the furnace**.

You run no risk, as we supply special plans, full instructions and **give free, all necessary tools**, so that any man who can drive a nail can successfully install a JAHANT.

Let us tell you something about the conveniences and good points of our furnace, its economy, its healthfulness and how you can save money.

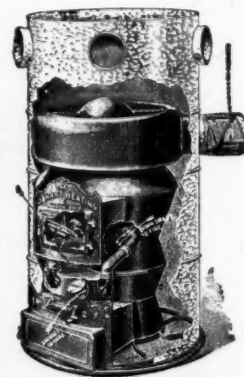
We have an interesting and money-making proposition to make to every carpenter and builder.

Write today for our book.

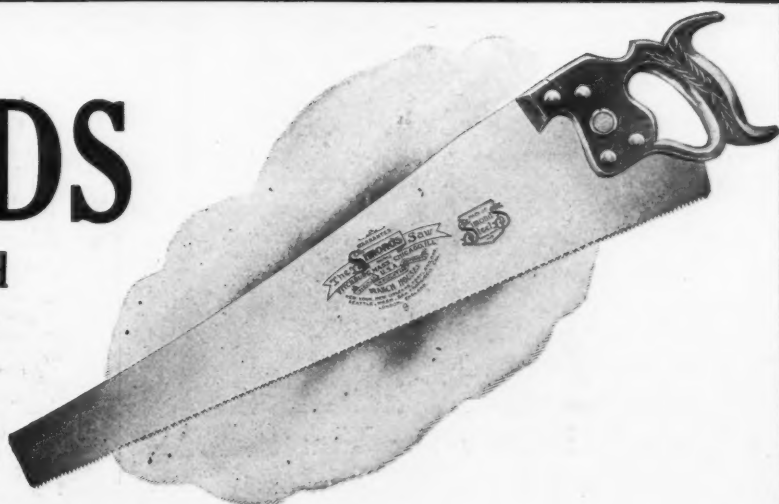
THE JAHANT HEATING COMPANY

"Building furnaces for thirty years".

100 Main Street, AKRON, OHIO



A NEW
SIMONDS
 Crescent Ground
SAW
 No. 9



You Can Not Buy This Saw

from many dealers at present. It is too new. They haven't got it. But the demand is big and dealers are being stocked as fast as possible.

Simonds No. 9.—The new saw is a Skew-back Ship Saw about $1\frac{3}{4}$ inches wide at the point and increases gracefully and gradually to the handle. Used daily as a finishing saw, siding saw, mitering saw, combination, hand and panel saw. Carved and polished apple handle with five brass screws.

The blade is "Crescent Ground," with four gauges taper for clearance, making the most perfectly graduated blade on the market. Made of Simonds Steel and fully warranted against all defects whatsoever. As nice an appearing saw as there is made. Packed the Simonds way, one saw in a case by itself. Price, 26 inch saw, any place in the U. S., \$2.00.

HOW TO GET IT

Fill out this coupon and mail to us. Send no money. We will forward the saw to the dealer you name and will write you at the same time. When you get our letter, call on that dealer and ask for your saw. When no dealer is convenient, send \$2.00 with your order and we will forward promptly, charges all paid.

Write today and have a good saw to use for future work.

Simonds Mfg. Co.

Fitchburg, Mass.

Branches in Leading Cities



_____, 19____
SIMONDS MFG. CO.,
Fitchburg, Mass.:

Please send me one Simonds New No. 9 Skew-back Ship Saw, 26 inches long. _____ points to the inch.
 Ship without expense to me, to _____

Put name of Hardware Dealer here. _____

Street address of Dealer, when necessary. _____

City. _____

State. _____

I agree to call and pay \$2.00 for this saw when it reaches the above dealer.

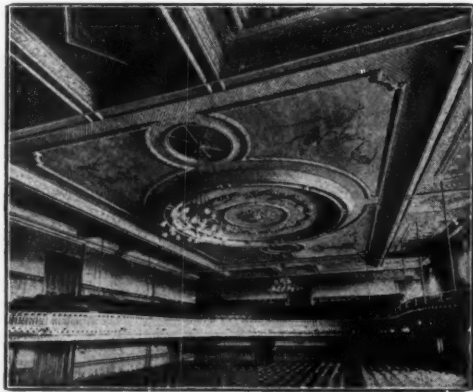
Signed _____

Address _____

When no dealer is named, enclose price of saw and it will be sent direct to you, charges prepaid.

Cut out this coupon and mail promptly

American Carpenter and Builder



There's Money for You in Steel Ceiling Work

And you can easily handle it. Our construction is planned to simplify erection and reduce number of pieces to handle, thus saving time, labor and expense. Any good mechanic with the aid of our working drawings can easily do the work and secure a neat, snug-fitting, workmanlike job.

We help you by preparing free suggestion drawings and estimates. Send sketch and dimensions of room or rooms to be covered and we will submit suggestions and quote exact prices on the material delivered at your depot.

Berger's "CLASSIK"

is the most complete line of artistic Steel Ceilings in existence AND OUR CATALOG PROVES IT.

Write for it TODAY. Ask for No. D-55.

THE BERGER MFG. CO., Canton, O.

New York Philadelphia Boston Chicago
Atlanta Minneapolis San Francisco St. Louis



Amatite

ROOFING

AFTER FIVE YEARS

THE success of any article depends upon the repeat orders, the orders which come because the article has "made good."

No manufacturer can succeed without these.

Here is the kind of letters which we are constantly receiving regarding Amatite roofing:

Gentlemen:

Five years ago we put our first roofs of Amatite on. Since that time we have roofed four other buildings with Amatite.

We wish to say in appreciation of your roofing that we never thought it was possible to procure a roofing of such quality for so little money. We have seen Amatite outwear tin roofs next door, as it were, to us, and our roof did not cost us nearly as much as the tin cost our neighbor.

Amatite is all you claim for it, and in our opinion the best of modern roofing materials.

Very truly yours,

DOUGLASSVILLE SQUAB CO.
Douglassville, Pa.

Such letters mean something.

The success of Amatite is due entirely to the well-known fact that it *always* proves satisfactory.

The advantage of a *mineral surfaced* roofing like Amatite over one with a *smooth surface* is that the latter needs painting and Amatite does not.

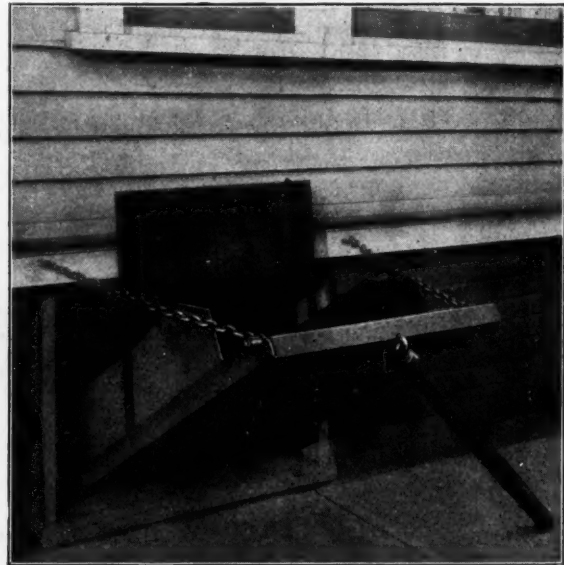
You have no further expense or bother after Amatite is once laid. This means a great saving. A ready roofing which requires painting every two years will cost after a while as much for paint as for the original roofing.

Free Sample on request

BARRETT MANUFACTURING CO.

New York Chicago Philadelphia Boston
Cincinnati Minneapolis Cleveland St. Louis
Pittsburg New Orleans Kansas City

facturing Company, and they will send you their catalogue which tells you all about their product, showing the class



of buildings in which it is installed and much information that will be of benefit to you. The catalogue costs nothing and the coal chutes themselves can be bought very reasonably.

Hendricks' Directory

The eighteenth annual edition of Hendricks' "Commercial Register of the United States for Buyers and Sellers" has just been issued. In it over 350,000 names and addresses of American manufacturers are classified under 35,774 classifications, representing about every machine, material, apparatus or specialty required in the architectural, engineering, mechanical, electrical, manufacturing, railroad, mine, quarrying and kindred industries, embracing everything:

For Railroads: From a track bolt to a locomotive.

For Mines: From a miner's lamp to a stamp mill of steel tipple.

For Building and Construction: Every known material, specialty, apparatus or machine required.

For Electrical Trade: From a push button to a generator.

For Machine Shops: From a tool holder to a boring and turning mill or traveling crane.

For Foundries: From a molder's flask to a cupola.

For Contractors: From a pick or shovel to a hoisting engine or steam shovel.

For Agriculture: From a garden rake to a mower and reaper.

For Power Transmission: Everything from a belt fastener to a complete system including the latest specialties in right angle transmission and variable speed countershafts.

For Heating and Ventilating: From an air or ventilating fan valve to a high or low pressure boiler.

For Plumbing Work: From a closet pull to a water closet range.

For Mill or Factory: Everything needed in the construction and equipment of same and every operating supply required.

For the Drafting Room: From a drawing pencil to a blue printing machine.

For Water Supply: From a water gauge to a pumping engine or standpipe.

For Municipal Work: From a paving brick, sewer inlet to a steam road roller.

Hardware: Everything in builders', shelf and heavy hardware.

Iron, Steel and Other Metals: Everything made from iron, steel, brass, etc., whether cast, rolled, drawn, pressed or

Radford's Stores and Flat Buildings

A Brand-New Book—Just Off the Press

Absolutely the first and only book of its kind ever published. No more valuable book could possibly be imagined for the use of any one contemplating building, or for the study of carpenters, contractors and builders. Every plan guaranteed to be complete and accurate in every detail.

The Latest Ideas in Two, Four, Six and Nine Flat Buildings, Stores and Lodge Halls, Bank Buildings and Double Houses.

This book illustrates over fifty popular designs in low-priced flats, store buildings, bank buildings and double houses in different constructions: cement plaster, concrete block, brick, stone, and frame. Every building illustrated was designed by a licensed architect standing at the head of his profession, who has made a study of economy in construction. Perspective views and floor plans of each and every design are shown, giving a picture of the completed building and detailed drawings of the interior arrangement.

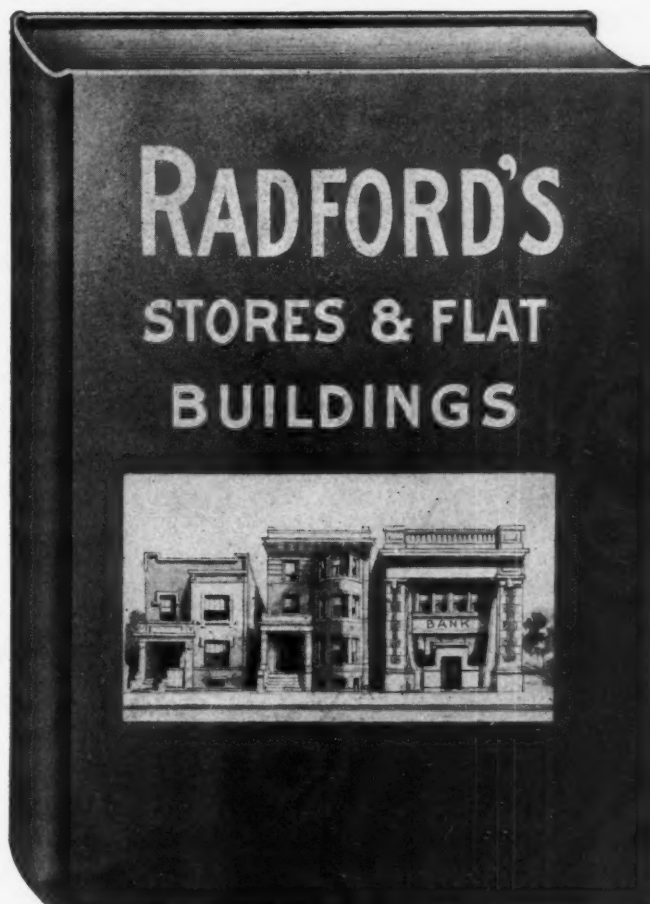
Designs for Large or Small Towns

Included in this collection of designs are a large number of stores and bank buildings suitable for the small town or village as well as the large city. An approximate estimate of the cost of the building, together with a description, is given under each design.

Everything Brand New

All of the perspective views and floor plans in this valuable book are brand-new. None have ever before been published. The illustrations and text are printed on the finest grade of enamel paper from the very best half-tones and zinc etchings.

Handsomely Bound in Silk Cloth. Price, \$1.00



HOW TO OBTAIN THIS BOOK OUR GREAT SPECIAL OFFER

FREE

THE AMERICAN CARPENTER AND BUILDER will **give** a copy of this valuable book, "RADFORD'S STORES AND FLAT BUILDINGS," **absolutely free, postage prepaid**, to all new and old subscribers whose subscriptions or renewals are received before Nov. 1, 1909. In all cases cash in full to cover one year's subscription to the AMERICAN CARPENTER AND BUILDER (\$2.00) must accompany the order. All renewals will be credited from the date present subscriptions expire. Address

AMERICAN CARPENTER AND BUILDER

185 Jackson Boulevard

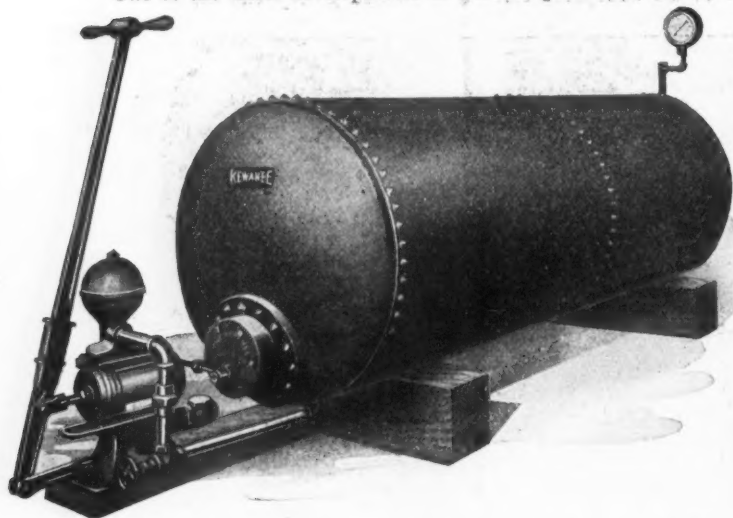
CHICAGO

forged, including bar, plate, sheet, wire, structural and other shapes, pipe, tubes, bands, hoops, high speed, high carbon, tool and other high-grade steels, bolts, nails, nuts, rivets, screws, rods, spikes, chains, shafting, reinforcing bars, etc. Castings of every description, from all metals—and

Machinery: Over 2,700 classifications of as many different kinds.

Kewanee Water Supply

One of the latest developments in what might be called the



"Modern Improvement" campaign that is being waged by progressive builders in all parts of the country is modern

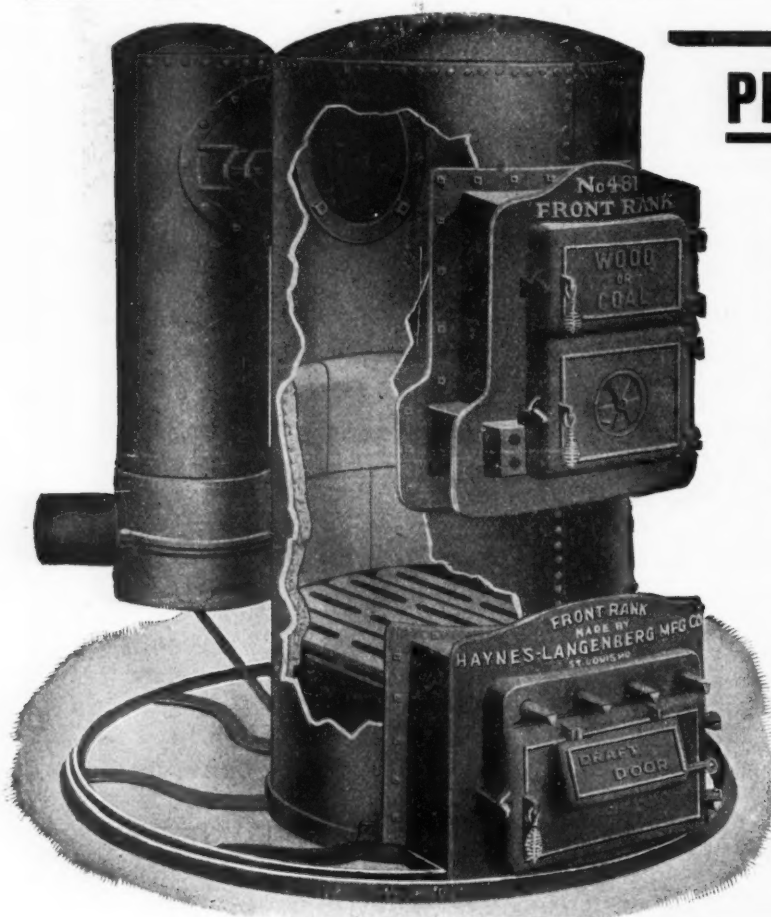
water supply systems. It has come to be pretty thoroughly realized that all the building trades are benefited through the developments and improvements in any one of them. In other words, when a man is building for himself he should be counseled on all sides to *build well*, to put in all modern conveniences so that his home will be permanently satisfactory. He should be urged to do this even in spite of the increased cost which it entails; he will never regret the investment.

Just as any one who has lived in a furnace heated house would not be content now to go back to the old time stove system, so no home builder should now be satisfied with the old-fashioned well pump or attic tank water system.

We would call the attention of the readers of this journal to the pneumatic pressure tank system of the Kewanee Water Supply Company, Kewanee, Ill. The accompanying cut shows a water supply plant of this company including a hand force pump. It is the complete pneumatic water supply outfit including tank, hand pump, connections and supports. Gasoline engines, windmills, electric pumping outfits, etc., can also be used with this water system. Further information concerning this modern system can be gained from the page advertisement of this company in another part of this magazine. All those interested should write for the beautifully illustrated, 64-page, general descriptive catalogue of this system. Address the Kewanee Water Supply Company, Kewanee, Illinois.

Jahant Furnace Sold Under New Plan

The Jahant Heating Company of Akron, O., is placing a complete heating system on the market. Furnace, pipings,



PEOPLE WILL TALK

When a man builds a house, all his friends call. Every caller looks over the FURNACE, looks for the NAME, asks all about it. The first Winter that man has lots of company; it's a New House and a New Furnace, and people like to see how new things "go." If the furnace only half heats the house, they "go" and talk about it; he "says things" too. That's one kind of "free advertising." Now, suppose the owner of the house buys a "Front Rank" Steel Furnace of you; some questions are asked: "Where did it come from?" "How does it work?" etc. Mighty good ad for you when the owner says: "That furnace is *all right*; it heats fine and doesn't burn much coal." And all his company go and talk: "How nice and comfortable that house was." Over 12,000 "Front Rank" Steel Furnaces in use in our own city, St. Louis; other cities in proportion. There's been lots of building; Summer will soon be over and Winter will be here. See the point? Want the Agency?

Haynes-Langenberg Manufacturing Company

4045-4057 Forest Park Boul., ST. LOUIS, MO.

ARE YOU A FIRST CLASS DRAFTSMAN AND DESIGNER?

WITHOUT DOUBT many readers have in the past wished to be successful, first-class Draftsmen and Building Designers, and probably often looked for a long time at plans and drawings, trying very hard to figure out certain lines, or had experienced an intense desire to be able to do the best drawing in best



F. V. DOBE

up-to-date manner; and many men in most any kind of business, especially in Architectural lines, have often felt greatly embarrassed because unable to read even a simple sketch or unable to make any kind of businesslike drawing.

No Carpenter is first-class and competent unless he is an A-1 Draftsman in addition. Without this knowledge he can never rise any higher and will remain only a Carpenter paid by the hour or day.

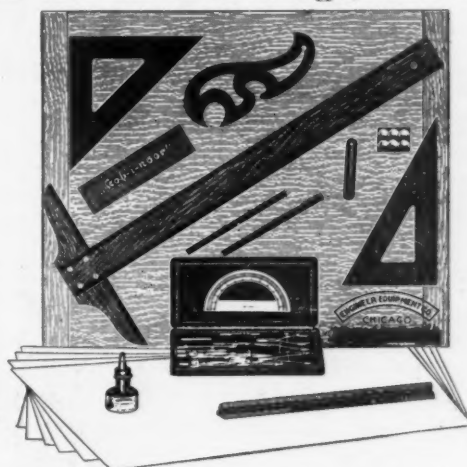
To become a successful Draftsman it is necessary, first of all, to receive the most practical and personal training. Not a lot of school or book knowledge, but practical Drafting room work.

Mr. F. V. Dobe, Chief Draftsman of the Engineers Equipment Company (Inc.), Chicago, has for many years made a practice of giving personal and individual Drafting instruction in complete Architectural Drawing and Building design; and is prepared to accept a few more personal students, young or old.

His instruction is given by mail, but

must not be compared with ordinary "for all alike" correspondence school lessons, as all the work is laid out personally by himself and prepared especially for your individual requirements and advancement. He treats each student according to the student's ability; and with his individual practical method, *which consists of actual Architects' work*, thereby giving the student the necessary required practical experience, he is able to qualify any experienced or absolutely inexperienced intelligent man.

He does not give or sell diplomas, but insists on your work being the only practical and *necessary evidence* of your ability, and able to do the talking for you. He guarantees by contract to qualify you in a few months by his practical instruction to be able to hold a first-class Draftsman's position. Instructions are given *until competent in every respect*. Mr. Dobe furnishes to his students, as a premium for the best practical drawing, and with which to make the best drawings, one of the



finest complete Drawing Outfits, including a full set of German Silver Instruments, worth \$13.85, free this month.

His "Successful Draftsmanship" book, size 6 by 9, is sent free with full particulars to any one interested, by writing to F. V. DOBE, Chief Draftsman.

Engineers Equipment Co., Chicago.

WANTED CARPENTERS AND BUILDERS

to take up Slate Roofing in unoccupied territory everywhere. Only a few inexpensive tools needed. Slating easy to learn.

Sea Green and Purple Slate Roofs

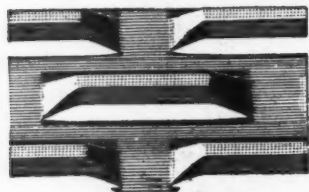
outlast any building. They won't wear out, rust or decay. Are fire-proof. Afford clean cistern water and don't require constant repairs and attention. A profitable, growing Slate Roofing business can be established anywhere. Besides new work, there are hundreds of wornout tin, shingle, metal and composition roofs to be replaced. Your neighbors are tired of paying out good money for short-lived roofings. Furnish them with handsome, sanitary, fire-proof "Never-wear-out" Slate Roofs.

Carpenters and Builders: This is a money-making proposition, it costs nothing to investigate. LOOK INTO IT. WRITE TO US IMMEDIATELY FOR FREE BOOK OF INSTRUCTIONS AND PRICES ON SLATE AND TOOLS. WRITE TODAY.

American Sea Green Slate Co.
Box 36, Granville, N. Y.

This proposition only applies to territories not now covered by a Slate Roofer.

SYKES METAL LATH



The lath that is positively different to anything else made; different because it combines more good features.

Cup lath is the only Expanded Metal Lath

that can be plastered on either side—cannot be applied wrong because both sides are alike.

We make two kinds—Sykes Expanded Cup Lath, and Sykes Trough Lath. Both are supreme for their own purpose.

The top illustration shows Trough Lath, bottom cut depicts Cup Lath.

NO PICKLED LATH

Sykes Lath is absolutely guaranteed not to have been pickled in an acid bath. This means that the weight and thickness is not reduced and is less susceptible to rust. Requires no furring out from studs because it is self furring.

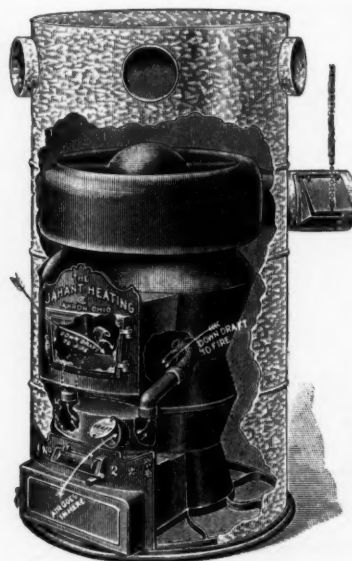
It has been approved by U. S. Government and by leading architects, carpenters and builders throughout the country. In fact, when we say it is the best ever made we are simply stating a proven fact.

Samples and prices mailed upon request.

Sykes Metal Lath & Roofing Co.
NILES, OHIO



boxes, radiators, registers and even the tools to install the outfit are included in the shipment direct from factory to builder.



With a vibratory grate added that does away with a lot of labor in operating the "digestive" apparatus, and many other new features, the Jahant Company still makes the down draft feature of their furnace a leading argument. In fact it ranks next to their biggest feature, a new selling plan that enables them to sell direct to the builder—whether he be a contractor or simply erecting his own home.

The "down draft" feature of the Jahant

down draft furnace is exclusive and always has been, because of letters patent that fully protect it. It saves 25 per cent consumption of fuel and gives heat in every room of the house.

The furnace is so devised that it provides for the introduction of warm air above the fire instead of cold air below it. The draft is downward through the fire, resulting in perfect combustion and allowing complete control of combustion. People who have grown to look upon coal men as devouring ogres, can readily appreciate the value of such a device as a saver of fuel bills and perceive its qualities as a simplifier of operation. The Jahant burns up every bit of fuel and, because it burns just as well when well filled with ashes as at any other time, obviates the necessity of frequent cleaning.

It is made of cast-iron on the principle that the best furnace is the heaviest furnace—the one that has the most metal in the parts that are subject to wear and corrosion.

The new selling plan enables the Jahant Company to give the purchaser of a Jahant down draft furnace a year's trial, free of charge. If it proves unsatisfactory after having been installed as the company directs, it can be returned without costing the buyer a cent.

The company prepares the system according to blue prints based on drawings and measurements furnished by the buyer. The latter, with the aid of the blue prints and full printed directions provided by the company, and all material at hand, tagged and numbered, cannot fail to get his apparatus installed correctly. And he has the satisfaction of knowing that his heating system is planned on correct principles and worked out according to scientific measurements. There is no guess work about it. This ought to appeal to contractors and builders who have hitherto had to depend on sub-contracting when it came to installing furnaces.

Mr. H. S. McGill, general manager of the Jahant Heating Company, says that the adoption of this plan has resulted in a cessation of complaints, whereas, under the old plan, they multiplied continually.

Perry Pneumatic Water System

A non-storage water system, lately put on the market, is being used extensively in homes beyond reach of municipal water mains.

The system comprises an air compressor, operated by any convenient power, an air reservoir and a pneumatic pump, together with the necessary piping and fittings. The pneumatic pump consists of two cylinders acted upon alternately by compressed air, which is admitted by a rotating valve,

60 Winter Days

Free Test at Our Risk and Cost

We Furnish Plans and Tools for Installing

As manufacturers, directly responsible to you for satisfactory results, we will send you a **Hess Steel Furnace** and complete heating outfit, including pipes, registers, fittings and everything needed, made to fit your measurements, with correct plans and instructions for installing, at **\$25 to \$100 less** than you can buy from others. We deliver the outfit at your station freight prepaid. You place the purchase price in the hands of your local banker, who will hold the money 60 days while you test the heater.

In case the test is not satisfactory in every way, you may return the goods at our expense and the banker will refund your money.

Don't Pay an Exorbitant Price for a Heating Outfit

**We Save You
From \$25 to \$100**

We have manufactured heating outfits for 36 years and can assure you that there is no necessity for paying the exorbitant prices demanded by others in order to have a modern, high-grade furnace and outfit installed in your building.

Send us a rough sketch of any building you wish to heat. Without any charge or obligation on your part, we will have our expert furnace draughtsmen prepare a plan which you can easily understand, showing the best way to heat your building, including every detail of the furnace, pipes, registers, etc., in their proper places, with the exact cost to you of the complete equipment. **No Charge for this.**



By following our simple, clear plans and directions any man handy with tools can easily install a Hess Furnace and outfit. We loan all the necessary tools, free.

Our free booklet, **"Modern Furnace Heating,"** clearly explains the principles of furnace heating. This booklet is so simply written anyone can easily understand the text, plans and illustrations it contains. It covers the entire heating proposition thoroughly and gives information of much value to the intending builder.

The booklet, **"These Bear Witness,"** gives the names and addresses of hundreds of people in every state and territory (many of them, perhaps, your neighbors) who have, and are using the Hess Steel Furnace and outfit, and to whom we refer as to the success of our heater and the advantages we offer to buyers.

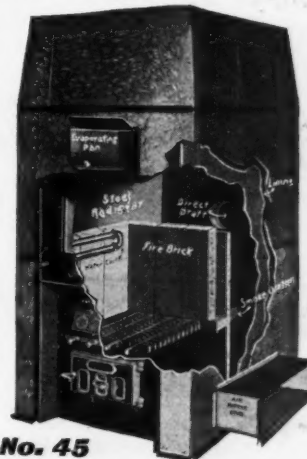


Heats 7 or 8 Rooms

Burns Any Fuel

Our Leader No. 45 is an economical furnace. It will heat seven or eight rooms, a small church, store, school or similar building.

Besides any kind of coal or wood, any other fuel, such as gas, coke, chips, twisted straw, corn cobs, etc., may be utilized in the Hess Furnace and money saved.



No. 45

**"Leader" Steel
Furnace**

Price \$49 Pipes and Registers Extra

Delivered to any station east of Omaha and north of the Ohio river.

Write Now, Before the Rush Begins

Many people delay ordering their heating equipment until too late to have it installed before cold weather sets in. It is always advisable to avoid the usual fall rush and thus have your furnace ready to operate when the cold weather arrives.

Send us a Rough Sketch of any Building you wish to Heat.

Our Plans, Estimate and Advice, Cost You Nothing, Whether You Buy of Us or Not

Hess Warming & Ventilating Co. 920 Tacoma Bldg.
CHICAGO

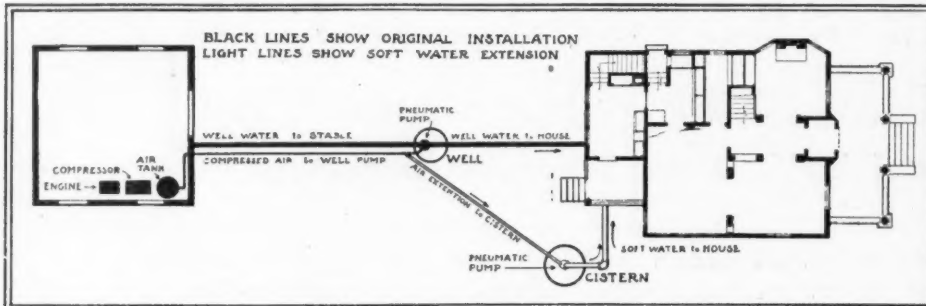
keeping a steady pressure throughout the system. The pump operates, and air is used, only when a faucet is opened.

Unlike all other independent water systems the Perry system does not store water at any point. It does away with the great storage tank and delivers water direct from the

One can easily appreciate, then, the need of a fresh water system, and this is what has been accomplished by the invention of the pneumatic pump and, from the fact that these pumps are already installed in some of the finest homes in the country, it is readily seen that there are well founded

reasons for not using water that has stood for days—and sometimes weeks—in an insanitary storage tank.

The element of "elasticity" in the Perry pneumatic water system is perhaps its strongest feature in point of practicability. If a Perry system has been installed to supply well water, and at any time it is desired to have soft water in the house, it is merely necessary to add the required



well. A comparatively small reservoir is used to store air only, in order that the air compressor need not run continuously.

In order to get the required pressure from a "compression tank" system, it is necessary to store vastly more water than is needed for immediate use and, while the service is usually satisfactory, the fact remains that water stored in a tank is never fresh water.

There is always an accumulation of sediment and often slime and in many of these tanks inadequate provision is made for cleaning. As a rule the manufacturers depreciate the importance of this point, claiming that enough air is forced into the tank with the water to keep it fresh, forming a process of aeration, but this is hardly borne out in fact and seems to be a defense of an admitted evil. One has only to witness the cleaning of one of these tanks to be convinced that aeration has its limitations.

air and water piping and a pneumatic pump for the cistern; or, more wells may be added to the water supply, making the system as extensive as there is need for, using the one original power station. The diagram shows the layout of such a system.

Full particulars of this system may be had by writing to the United Pump and Power Company, 485 Old Colony Building, Chicago.

Schuler-Mueller Company—Ornamental Glass

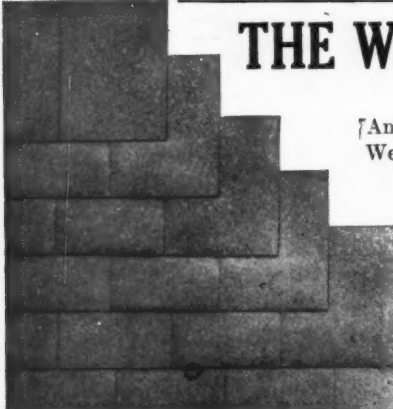
The accompanying illustration is a reproduction of a page taken from the art glass catalogue issued by the Schuler-Mueller Company, southeast corner State and Kinzie streets, Chicago, Ill., one of the largest manufacturers of art glass in the west. We find them comfortably settled in their new shop where they have acquired double the working space they had



Cast Iron Gutters Last

Easily put up. Once up, always up. Do not bend or break by pressure of ladder against them. Will stand greater weight of snow or accumulation of ice than any other gutter. Not affected by acid fumes that in some vicinities play hob with all other metal gutters. They are adaptable to any kind of building or type of construction. Cast with moulded face to form part of cornice, or rounded to serve as a hanging gutter. Used almost exclusively in England and all over Europe. Supplied in 6 foot lengths. Joints fitted ready to erect. No soldering required. Send at once for circular and prices.

HITCHINGS & COMPANY, Elizabeth, N. J.



THE WINTHROP SOLID TAPERED ASPHALT SHINGLES

ARE OF A COOL, GRAY SLATE COLOR

[And have all the Durability of Asphalt—the Fine Appearance of Slate and the Light Weight and Low Cost of Wood Shingles. Laid with regular Shingle Nails, the same as Wood Shingles. **NEVER REQUIRE PAINTING.**

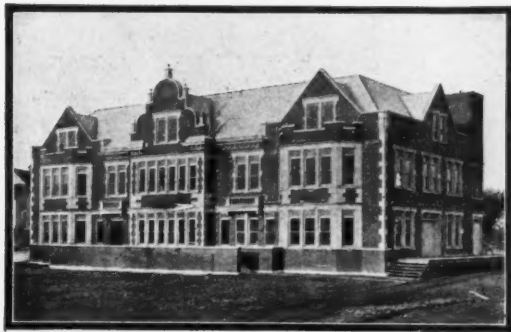
Write for Free Booklet and

SPECIAL INDUCEMENTS TO THOSE WHO APPLY

FIRST ROOF IN EACH TOWN

Winthrop Asphalt Shingles are Fire-resisting, Weather-proof, Wind- and Sun-proof, and never Crack, Break or Fall Off.

WINTHROP ASPHALT SHINGLE CO. 1101 1/2 The Temple CHICAGO, ILL.



Asbestos "Century" Shingle Roof
Office Building of Wills & Baumer Co., Syracuse, N.Y.
Merritt C. Conway, Syracuse, Architect

Asbestos "Century" Shingles

["The Roof that Outlives the Building"]

A fire-proof roof means lower insurance rates. One-fifth of all fires are due to sparks on the roof.

Asbestos "Century" Shingles are made of reinforced concrete—the ideal fire-proof material. Homogeneous sheets of concrete, reinforced in every direction with asbestos fibres.

Fire cannot burn them, break through them, crack, melt, chip or flake them. Asbestos "Century" Shingles can be laid so as to keep the roof intact even after an internal fire.

Made in three colors—Newport Gray (silver gray), Slate (blue black), and Indian Red, in numerous shapes and several sizes. Ask your Roofer for new quotations. Write for Booklet "Roofing 1909."

The KEASBEY & MATTISON COMPANY, Factors, Ambler, Pennsylvania



TIME WILL TELL—BUT NOT ON

"First Cost
is
Last Cost"

Galva-nite Roofing

"Easy To
Lay."

The very name "GAL-VA-NITE" carries with it a positive feeling of satisfaction. The carpenter or builder who either specifies or uses this high grade ready roofing on a building can rest assured that the owner will be satisfied. GAL-VA-NITE marks that degree of perfection among roofing materials which characterizes it as the "STANDARD" of moderate priced ready roofings. It has made good in all climates and under all conditions. The fact that it needs no painting or after attention when once on the building, makes it especially in demand by house owners who have long since tired of the expense and trouble of patching up leaky roofs.

GAL-VA-NITE is waterproofed with a triple coating of mineral asphalt and weatherproofed with a heavy "armor-plating" of flaked mica, which makes it impervious to the ravages of rust and the dangers of flying sparks and fire-brands.

Better let us send you FREE SAMPLES and ROOFING BOOKLET. A postal today will bring them to you. Ask for DETAIL 9. Address the manufacturers.

UNION ROOFING & MFG. CO.

1100 East 7th St
ST. PAUL, MINN

WE HAVE DISTRIBUTING WAREHOUSES IN THIRTY-FIVE CITIES



PUMPS, DOOR-HANGERS, STORE LADDERS

The Pump That Pumps
MYERS
Glass Valve

SPRAY PUMPS
Double-acting, Lift, Tank and Spray
PUMPS
Store Ladders, Etc.
Hay Tools of all kinds
Write for circulars and prices.

Myers Stayon Flexible Door Hangers
with steel roller bearings, easy to push and to pull, cannot be thrown off the track—hence its name—"Stayon." Write for descriptive circular and prices. Exclusive agency given to right party who will buy in quantity.
F. E. MYERS & BRO., Ashland, Ohio.

Noiseless Cushion Tire
LADDERS

DUMB WAITERS AND HAND ELEVATORS
OF THE MOST IMPROVED AUTOMATIC CONSTRUCTION
INVALID LIFTS
TRUNK, CARRIAGE, SIDEWALK AND FREIGHT ELEVATORS
SEDGWICK MACHINE WORKS
POUGHKEEPSIE, N. Y.
AND
128 LIBERTY ST. NEW YORK
CATALOGS AND ESTIMATES FURNISHED
SEE SWEET'S INDEX

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER

BIGGER PROFITS

FOR THE CONTRACTOR Who Uses The WATROUS NO. 17 SCREEN HANGER

The same pieces, arranged to suit, will hang either a full or a half screen from either the top or side. Storm sash should be hung from the top, but this is the only way to hang a screen.

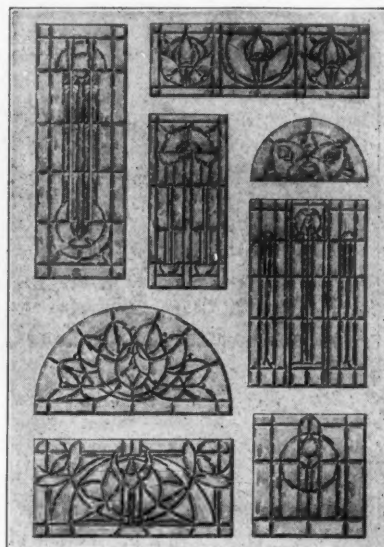
Only four screws to set instead of twelve, a saving in labor of two-thirds. A gauge mark locates the piece instantly, and makes mistakes impossible. A carpenter who has bought other hangers, could afford to throw them away, buy the Watrous No. 17, and make more money on the job. Mounted working model sent free postpaid to dealers or carpenters. Write to-day.

Finish either japanned or galvanized, with galvanized screws.

E. L. WATROUS MFG. CO.
DES MOINES : : IOWA




at their former location (corner Madison and Canal streets) and now have one of the most complete and up-to-date shops



in the country. They make everything in art glass—for homes, public buildings and churches—and are specialists in this line, employing a large force of artists and skilled mechanics. This, together with the fact that they have been manufacturing art glass continuously for nearly twenty years, is sufficient recommendation and guarantee to anyone needing their products. We find that they issue several beautiful catalogues, showing many different suggestions for art glass, and they inform us that they will gladly mail a copy to any of our readers who are interested in art glass and ready to buy, if they will write them direct, mentioning the AMERICAN CARPENTER AND BUILDER.

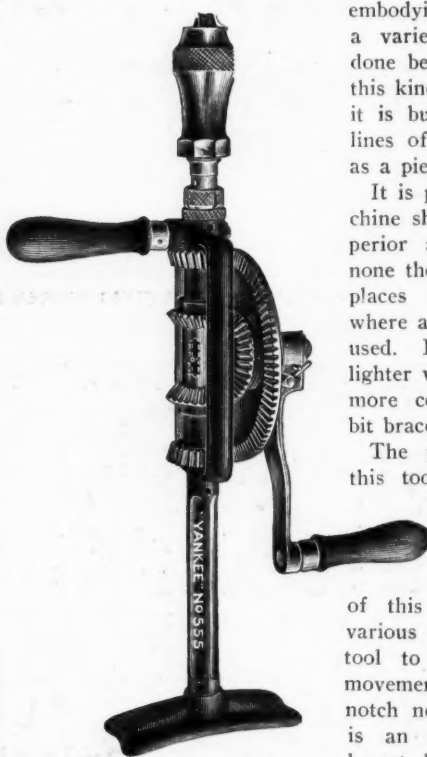
"Yankee" Breast Drill

The "Yankee" breast drill differs from all others. It is said to stand in a class by itself, being not only unique, but embodying the capacity for a variety of work never done before with a tool of this kind. Not only so, but it is built mechanically on lines of a tool rather than as a piece of hardware.

It is pre-eminently a machine shop tool, but its superior advantages will be none the less appreciated in places outside of shops where a breast drill can be used. In many places for lighter work it will be even more convenient than the bit brace.

The peculiar feature of this tool is found in the shifter on cylinder between the small gears. The mere movement

of this shifter in the various notches causes the tool to perform different movements. In the first notch nearest the chuck it is an ordinary or plain breast drill. In the second



notch it becomes a left hand ratchet useful in removing

Granite ROOFING
Penn. R. R. Station
Washington

Good Material and Plenty of It

Many ready roofings are made of flimsy, light-weight paper, scantily coated, which last only a year or two.

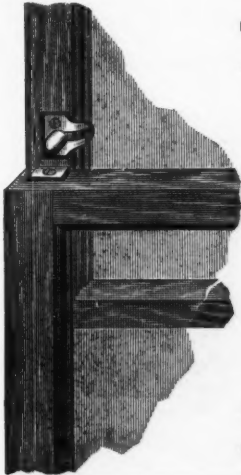
Granite Roofing does not belong in that class. Good materials and plenty of them are used in making it. There is nothing flimsy or fragile about Granite Roofing. It has a heavy sea-grit surface, which takes the place of the usual coat of paint, and wears indefinitely.

Other roofings require coating with some special compound every year or two, but Granite Roofing never requires any coating. After the roof is laid, it will take care of itself.

A Free Sample will be sent "for the asking." You will be astonished to see how heavy, firm and durable a ready roofing can be made.

EASTERN GRANITE ROOFING CO.
1 Hudson Street, NEW YORK.
CHICAGO ST. LOUIS





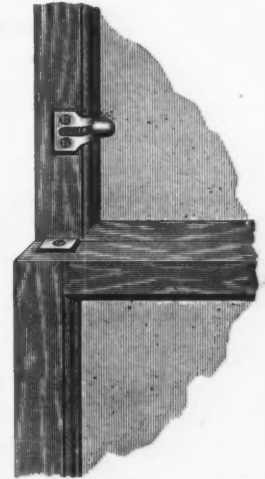
Ventilation Without Risk

IVES PATENT VENTILATING LOCK

A safeguard for ventilating rooms, allowing windows to be left open at the top, the bottom, or both top and bottom with entire security against intrusion, a permanent fixture easily applied and quickly operated, affording three times more protection to the window than the ordinary sash fastener.

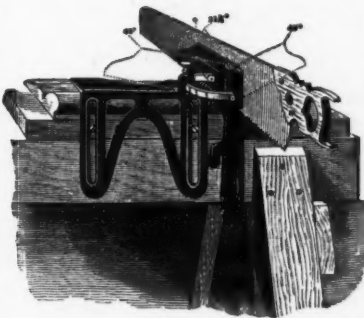
THE H. B. IVES COMPANY
NEW HAVEN, CONN., U. S. A.

88-page Catalogue Hardware Specialties mailed free



"SEAVEY" MITRE BOX

meets every requirement



Cuts any angle—
special or regular.

Needs no special
saw.

Lightest box made

Can be instantly
applied.

The *only* Mitre
Box.

Made so that it is attachable to inside or outside work
without a special attachment.

Prices to-day from your jobber or write for the
"Green Book"

SMITH & HEMENWAY CO.

108-110 Duane Street,
NEW YORK ∴ U. S. A.



Pioneer Roofing has stood the test of time—since 1888. Beginning in a small way, the Company manufactured ready roofings and sold them locally. The business extended, until today Pioneer "Rubber Sanded" and Pioneer "Rubber Flaxine" Roofings cover the coast—from Mexico City to Alaska, and are rapidly gaining headway east of the Rocky Mountains.

Write for Booklet "A"—samples of Roofing—
and name your nearest agent.

REFINERS OF ASPHALT

The Pioneer Roll Paper Company are refiners of Asphalt, and manufacturers of Asphalt Paint—which they supply direct from their factory in Los Angeles.

California Agents for Northwestern Compo-Board Company.

Pioneer Roll Paper Co.
Dept. 21 Los Angeles, California

Storm Sash and Screen
Hanger No. 1



The time is drawing near at hand when carpenters and builders begin putting up storm sash and it might be well to say that the **best and most convenient** goods are always the cheapest in the end.

We make the only Ball and Socket Hangers on the market.
One trial will convince you that they are the best.

Our No. 1 Fastener is made of the best steel wire.
It holds the Sash firmly against the bling stop
and prevents rattling.

MANUFACTURED BY THE

DIEHL NOVELTY CO.
SHEBOYGAN, WIS.

Storm Sash and Screen Hanger No. 2



Genasco lasts—but you don't have to take our say-so. Judge for yourself!

Genasco Ready Roofing

is made of Trinidad Lake asphalt. You know that is Nature's own absolute waterproofer and weather-resister. It is better to *know* what goes in your roofing than to guess—saves money, time and trouble.

Look for the trade-mark, and know that you get Genasco. Mineral and smooth surface. Backed by our written guarantee. Write for samples and the Good Roof Guide Book.

THE BARBER ASPHALT PAVING COMPANY

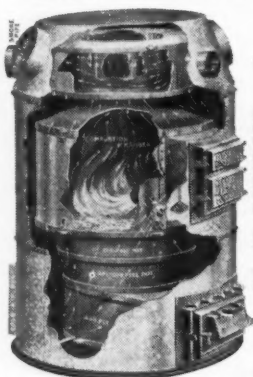


Largest producers of asphalt, and largest manufacturers of ready roofing in the world.

PHILADELPHIA

New York San Francisco Chicago

BUY A BOVEE FURNACE



Direct from the Factory
AND SAVE \$50.00 TO \$100.00
ON YOUR HEATING PLANT
They Actually Save from One-third to One-half of the Fuel

We have one of the best equipped furnace factories in the west and make more than 30 different furnaces of seven leading styles and can furnish our customers with practically any size or style of furnace they may desire, either Upright or Horizontal, sufficient to heat a large church or school house, down to a cottage heating plant complete with all pipe, registers and fittings for \$55.00.

Our furnaces are the only furnaces having a perfect ventilating system for every part of the house.

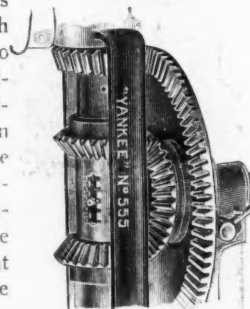
We ship our furnaces cut to fit. Any handy man can install them without the aid of a tinner.

Catalogue and full specifications free.

Bovee Grinder & Furnace Works
50, 8th Street Waterloo, Ia.



taps, but especially to loosen drill if it becomes jammed in a hole and cannot be moved forward or crank revolved backward. In the third notch it becomes a right hand ratchet. In the fourth notch it becomes what is difficult to describe, but when seen excites admiration for what it does and curiosity as to how accomplished. When in this notch any movement of the crank, however short, or turned continuously in either direction, or a combination of the two, the drill in the chuck will always turn to the right and drill continuously, hence no time is lost and double the work is done compared with single or a right hand ratchet.



This peculiar movement is obtained through a more extended combination of pawls and ratchets used in the other "Yankee" tools. It is absolutely positive in action and cannot get out of order. In the fifth, or lowest notch, the spindle is locked tight so that the drill chuck can be readily opened or closed.

No simpler operation can be conceived than the movement of this little shifter within convenient reach, to produce such widely varied movements in one tool.

The change of speed on the No. 555 (double speed) is made by pushing the little lever at the hub of the crank toward gear for fast and away from gear for slow speed. This is done in the fractional part of the revolution and at any time, even while drilling, without removing the tool from work, and with any of the various movements of the shifter explained above. The convenience of doing this will be appreciated when using the fast speed in drilling to slow up in going through casting, or running against hard spots. In no other breast drill can the speed be changed quickly or conveniently while the tool is at work, nor in some of them when they are not at work.

The side handle on the Yankee breast drill can be unscrewed and has on it a screw driver bit to take care of all the screws on the tool.

The breast plate can be adjusted to right angle of position shown, and thus enable the tool to be used close against partitions or in corners.

The adjustable ball bearings in spindle take up all the strain or thrust and relieve all other parts of the tool. Any lost motion can be readily taken up by the adjustment provided.

The chuck is of new design and will hold accurately and securely with the two jaws either square or round shank drills or other tools up to 1/2 inch.

A hexagon at the end of the shell of chuck permits the use of a monkey wrench for tightening large drills instead of the common practice of holding the chuck shell in vise to the detriment, if it does not entirely ruin chuck.

This chuck will hold any tools that can be held in chuck of a bit brace such as screw driver bits, countersinks, or rose bits, etc.

In design and construction the Yankee breast drill is a machine, built and finished as such. The frame is malleable iron, the spindle of steel, turned and fitted, the gears have the teeth cut from the solid to run smooth accurately. The tool is finished in a dead black color in keeping with its character of a machine, and not in bright or gaudy color as hardware. The bright parts are nickel plated and polished, and will not rust in stock or in use.

Full information concerning this drill and the other reliable, ingenious tools of the "Yankee" line may be had from North Bros. Manufacturing Company, Philadelphia, Penn.

This Is To Certify

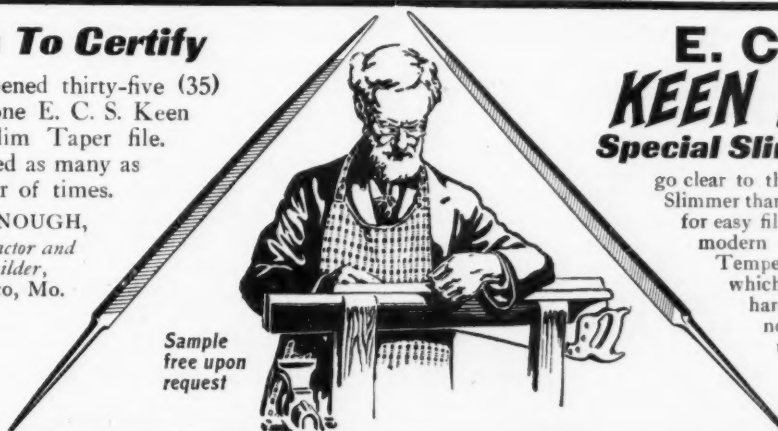
that I have sharpened thirty-five (35) hand saws with one E. C. S. Keen Kutter Special Slim Taper file.

I have sharpened as many as 15 or 20 a number of times.

ROBT McDONOUGH,
Contractor and
Builder,
Mexico, Mo.



Sample
free upon
request



E. C. S. KEEN KUTTER

Special Slim Taper Files

go clear to the bottom of the tooth. Slimmer than any others, and shaped for easy filing. Cut accurately by modern improved machinery. Tempered by natural gas, which gives them a peculiar hardness and toughness. If not at your dealer's, write us for free sample.

**SIMMONS HARDWARE
COMPANY (INC.)**
St. Louis and New York,
U. S. A.
Address Div. No. A. C.



AN EDWARDS METAL SPANISH TILE ROOF

COSTS NO MORE THAN A GOOD TIN ROOF

Artistic and Ornamental in appearance and is positively guaranteed to be Fire, Lightning, Rain, Storm and Wind proof.

Its extreme lightness (about one-eighth that of slate), durability and moderate cost commend it to those wishing something out of the ordinary in roofing.

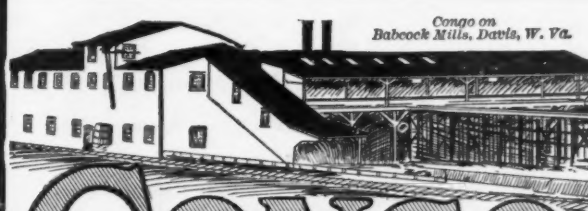
Manufactured from best quality Worcester Grade Terne Plate, furnished painted or galvanized (galvanized after being formed) size 10 x 14 inches

Descriptive Booklet sent free on request.

The Edwards Manufacturing Co.

"THE SHEET METAL FOLKS"

401-417 Eggleston Ave., CINCINNATI, OHIO



CONGO

"NEVER-LEAK" ROOFING

CONGO is a roofing that is made and sold in handy rolls all ready to lay. Nails, cement and caps in sufficient quantity are packed inside so that there is nothing else to buy. The caps are galvanized iron instead of the usual tin and so they do not rust. Ordinary caps soon rust and become useless. Leaks and trouble result.

Any man can lay Congo Roofing. It demands no special skill or experience.

Congo is applicable to any building and to any kind of roof, although it will give best results on sloping roofs. It can be laid on farm buildings right over old shingles; it is so tough that the

rough surface will not hurt it. It can be used on factories and the fumes of coal smoke will do it no damage.

Congo suits every purpose and every purse, because it is made in three grades, namely: 1-ply, 2-ply and 3-ply. The 3-ply is guaranteed for 10 years. The guarantee is a real guarantee, and does not require a lawyer to enforce it for you. It consists of an Insurance Bond issued by the National Surety Company and is enclosed with each roll of Congo Roofing ready to be filled out and sent in for registration.

Sample of Congo and new booklet mailed free on request.

UNITED ROOFING AND MANUFACTURING CO.

555 West End Trust Bldg., PHILADELPHIA, PA. CHICAGO SAN FRANCISCO



A STORE FRONT THAT WILL LAST

PERMANENCY is one of the strongest features of the Petz System of Store Front Construction. No bar offered will give the same strength, beauty and ease of construction found in the Petz Bar. Leading architects endorse it, and insurance underwriters recommend it from the standpoint of safety to the glass.

The Petz Bar gives the most light and display space, and allows glass to be set from the outside. You should have our new booklet, "Modern Store Front Construction." It illustrates and describes the different styles of the Petz Bar. Send for a copy today.

Detroit Show Case Co., Sole Makers
491 West Fort Street Detroit, Mich



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER

Successful Estimates

Reliable and accurate estimating is the kind that brings success. That is the kind taught in *The Lightning Estimator*—sixth edition—which the Bradt Publishing Company, Jackson, Mich., have just issued. It teaches easy, rapid, simple, reliable, accurate and practical methods of estimating the cost of buildings. It shows you quickly the amount of labor and material required for each separate part of your work, but is so condensed and systematized that you may estimate cost of a whole house in a few items. In fact, many builders estimate cost of a \$2,000 job in an hour, and know they are right. If you save time you save money. This book is based on actual cost, so that you may know just what margin of profit you must add. Written by a successful builder, based upon actual records from a wide building experience, not theory. It covers a very wide range of this work, treating all parts of house work except plumb-

ing and heating, and covers a great many subjects not touched upon in other works of this kind.

Risk of errors and omissions (that bugbear to the contractor) are reduced to a minimum. You do not need to be a college graduate to understand the text of this book, as it is written in plain, simple, every-day language. This edition has much more on concrete work than heretofore, including valuable hints on making, setting and bonding concrete blocks. Printed on heavy enamel paper, is profusely illustrated, and, unlike previous editions, is bound with handsome and substantial cloth covers; 60 per cent larger than fifth edition. Size about 5 by 7 inches. Can you afford to be without this standard method, that will save you much worry and labor, and make you successful?

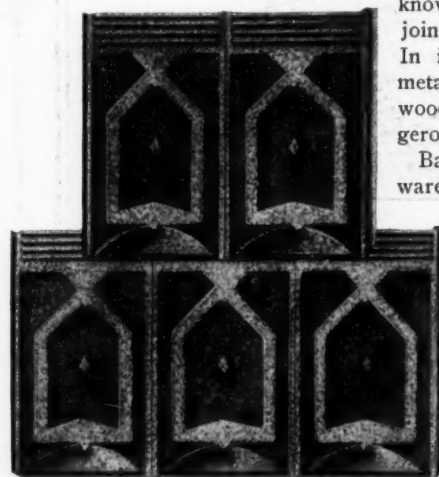
If you are a journeyman, here is your opportunity to become a master builder. Order early, as the advance sale on this edition has been very large. As the previous editions have had a splendid endorsement and phenomenal sale, we know this enlarged edition will have a great demand.

Standard Metal Shingle

The Canton Manufacturing Company, Canton, Ohio, are sending out a "catchy" little folder in behalf of their well

known "standard" lock joint metal shingles. In it, it is said that metal roofs are safest; wooden the most dangerous.

Barns, sheds and warehouses are struck more often than dwellings, stores or office buildings, while churches and schools are struck the least often of all, according to the most complete statistics; but



just why this is so our meteorologists are as yet unable to determine. The roof most often destroyed by lightning is that of wood, that of slate ranking next, and that of metal being the safest of all. This is because metal, being, of these three materials, the best conductor, scatters the electric current, which escapes before the house is set on fire. Professor A. J. Henry, the lightning expert of the weather bureau, has this to say on the matter: "In large cities the use of lightning-rods is not imperative owing to the prevalence of modern steel structures and, in general, buildings with metal roofs."

Artistic Grills in Home Making

Along with the modern custom of including many built-in fixtures in the home, such as sideboards, cupboards, bookcases, linen-drawers, etc.—all very convenient and desirable—there has developed a new appreciation of artistic grille work. Home builders have come to realize that very often the one touch still needed to complete a cozy and delightful interior is a pillared doorway or a well executed grille. In looking over the new catalogue, just received, of the Chicago Grille Works, 243-251 Wells street, Chicago, Ill., we find a very great number of these artistic yet practical grille designs. Some modern consoles are included also.

In compiling this catalogue, No. 17, the Chicago Grille Company state that in it it is their aim to show such goods as are in constant demand and therefore "live goods." If you will compare their designs and prices with others, we believe the result will be to your advantage. This catalogue should be in the hands of every person interested in home building.

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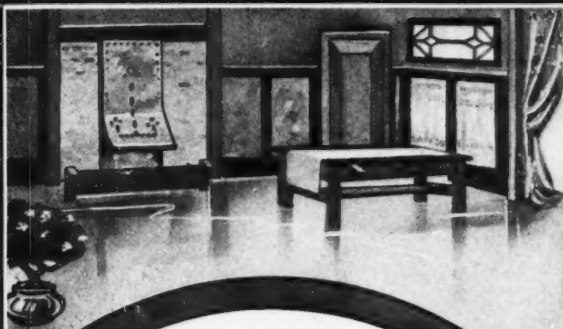
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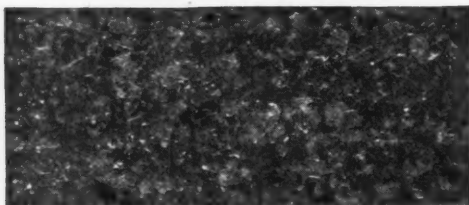
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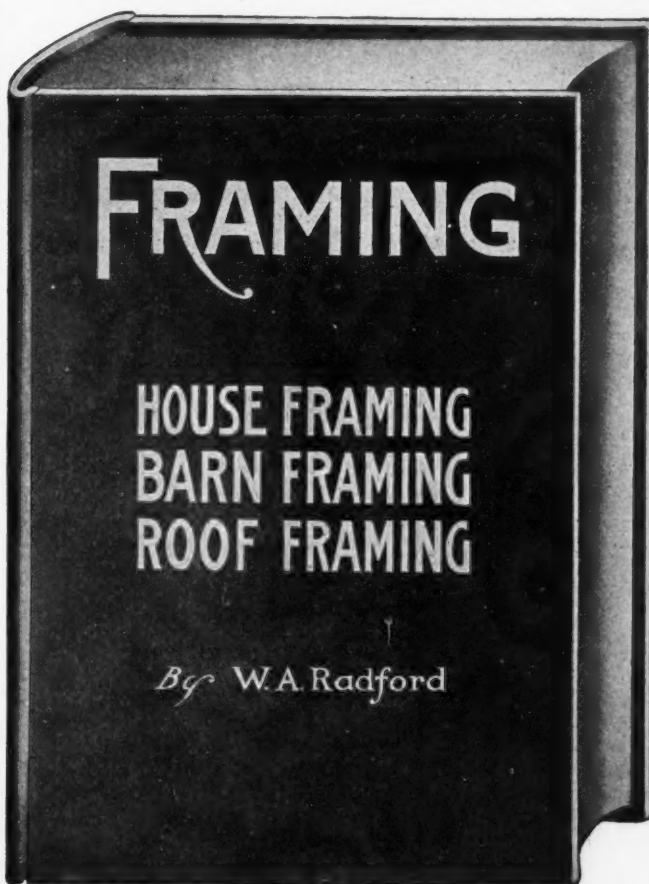
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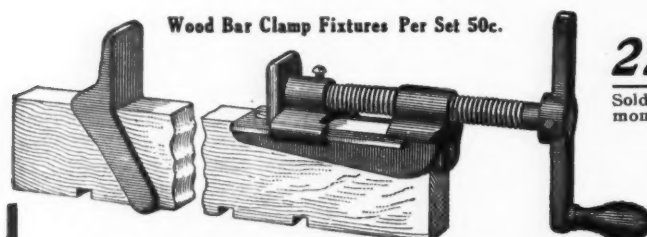
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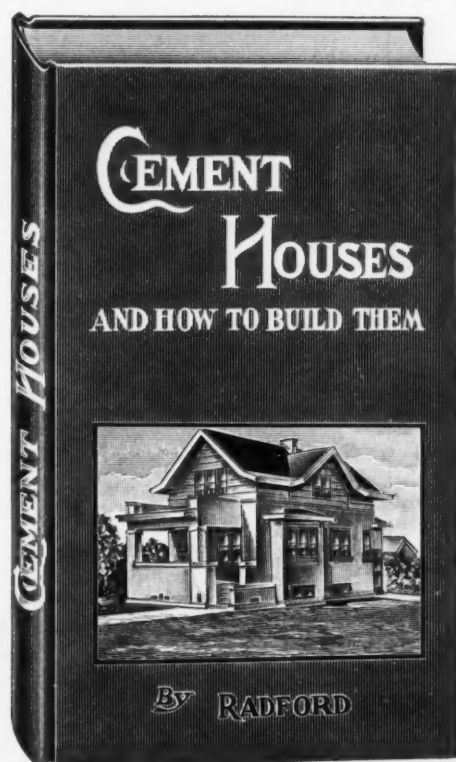
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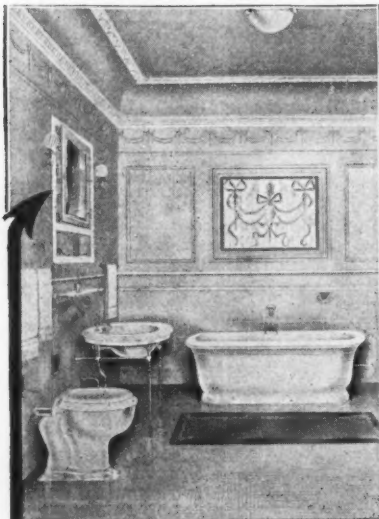
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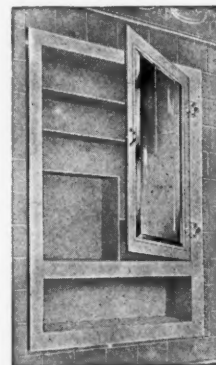
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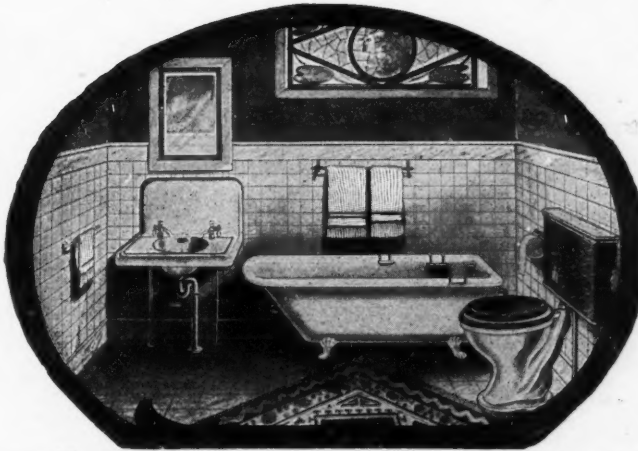
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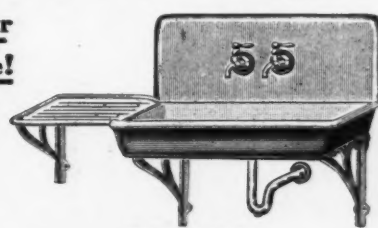
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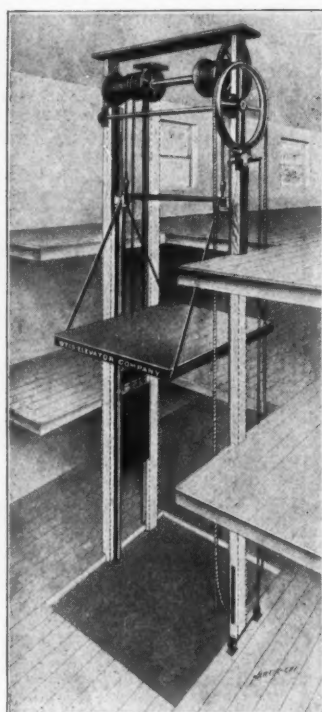
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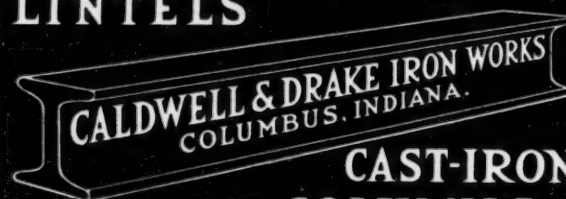
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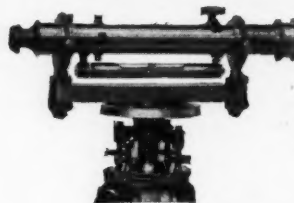
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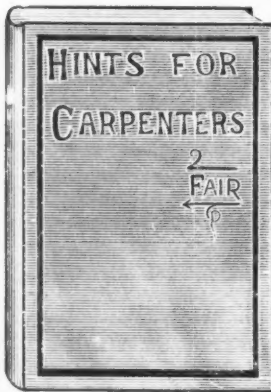
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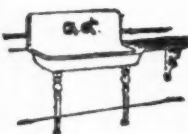
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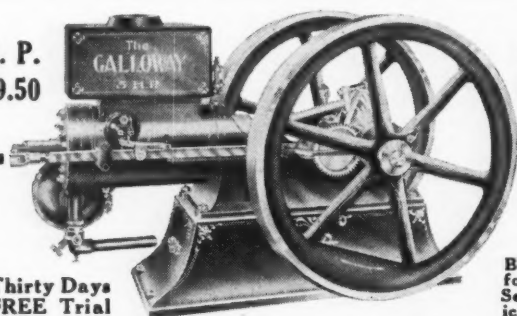
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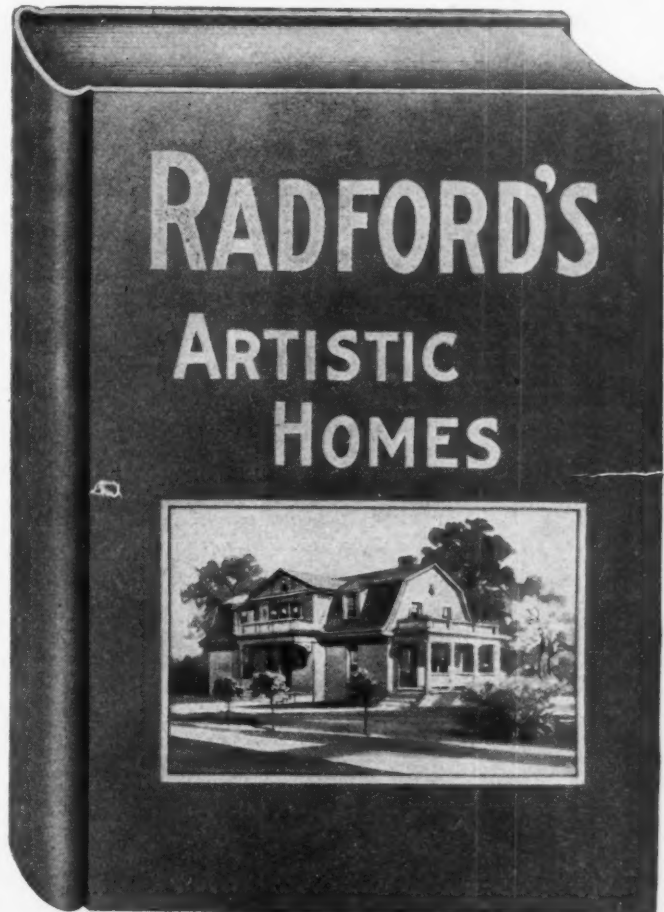
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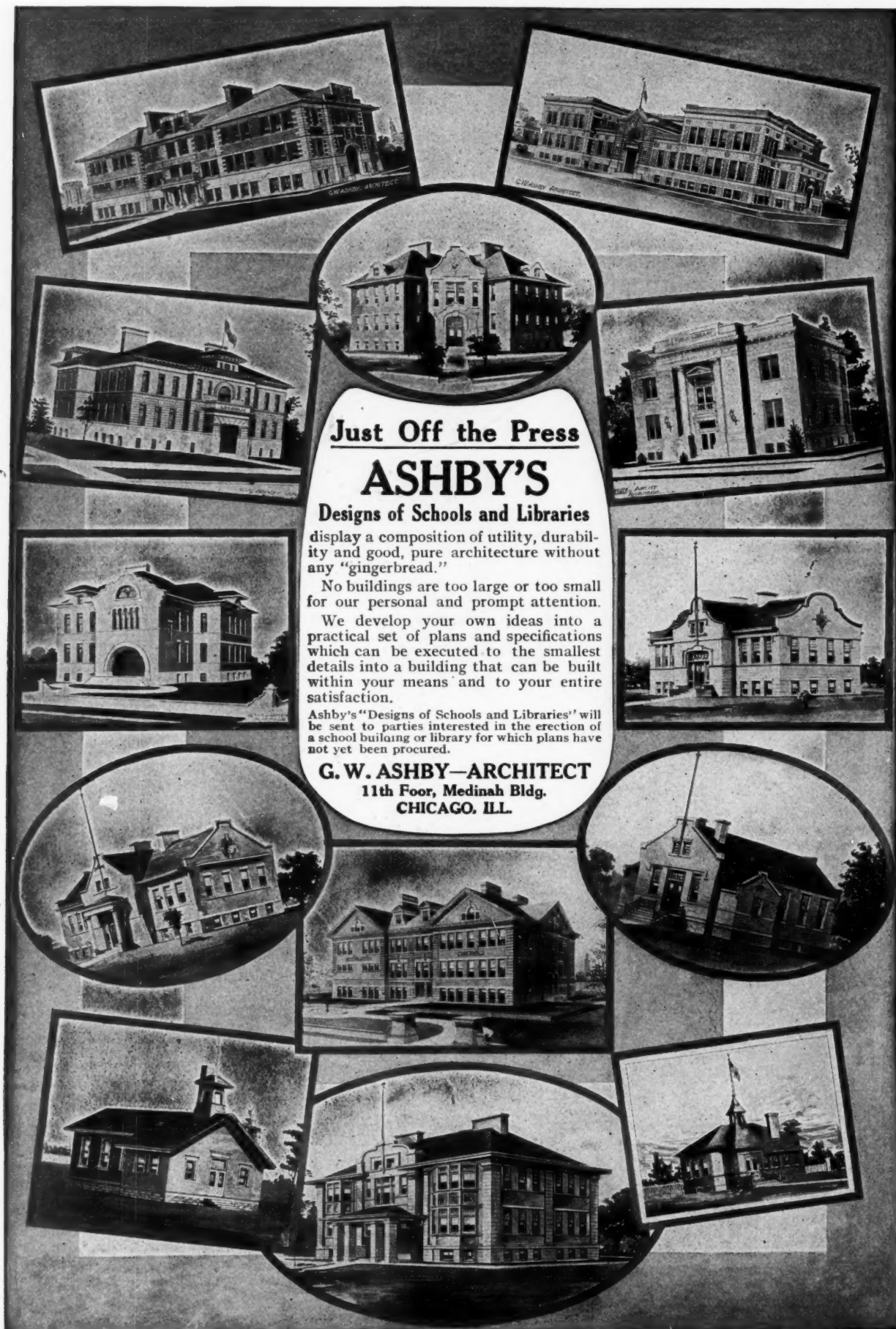


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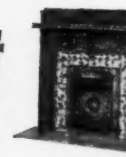
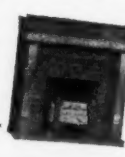
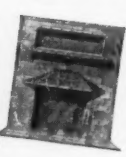
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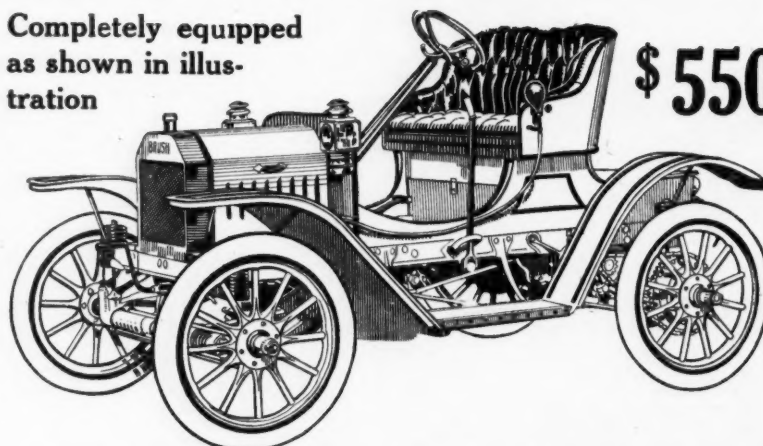
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63P3102	Medium	Two-Ply	108	40 pounds	54c
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The above prices on Century Brand Prepared Tarred Felt Roofing do not include caps, nails or coating. For each roll of 108 square feet you should order extra 1 pound tin caps, 1 pound roofing nails and 1½ to 2 gallons of roof coating.

THESE PRICES ARE BELOW WHOLESALE PRICES. QUALITY IS FULLY GUARANTEED

If You Are Interested

in the highest grades of roofing made, of the finest grades of shingles, order our



15-YEAR BEST-OV-AL ROOFING

32 inches wide.

EXTRA THICK AND HEAVY GRADE.

Rolls of 108 square feet. Wt., \$1.80

56 lbs. **OUR REDUCED PRICE.**

Order by Catalog No. 63P3033.

12-YEAR BEST-OV-AL ROOFING

32 inches wide.

HEAVY GRADE.

Rolls of 108 square feet. Wt., \$1.50

46 lbs. **OUR REDUCED PRICE.**

Order by Catalog No. 63P3032.

8-YEAR BEST-OV-AL ROOFING

32 inches wide.

STANDARD GRADE.

Rolls of 108 square feet. Wt., \$1.25

36 lbs. **OUR REDUCED PRICE.**

Order by Catalog No. 63P3031.

Above prices include large headed galvanized nails and cement for laying, packed inside the roll.



ASPHALT ROOFING.



95 Cents a Roll Composition Roofing. A price far below what others would charge for the very same roofing which may be sold under some special label with a high sounding name.

Composition Roofing is sold by us for the purpose of meeting the demands of those who want a so called ready roofing because it is low in price and who are not so particular about its wearing qualities. We sell it for just what it is.

This Roofing is as good a grade of roofing as is sold by many concerns at prices ranging from 75 cents to \$1.50 per roll higher than these prices. It is made of standard felt saturated with asphaltic composition and is finished on one side with a smooth mica coating and is flint coated on the other side. Some roofers prefer to use rubber surface while others prefer the sand surface up to the weather. This roofing can be used with either side up according to the wish of the purchaser.

Composition Roofing is made 36 inches wide and is put up in rolls containing 108 square feet, or enough material to cover a square of 108 square feet. Furnished complete with nails and cement inside the rolls.

PRICES ON COMPOSITION ROOFINGS.

Catalog Number	Kind	Weight	Price, per Roll of 108 Square Feet
63P3111	One-Ply	34 pounds	\$0.95
63P3112	Two-Ply	44 pounds	1.25
63P3113	Three-Ply	54 pounds	1.50

SAMPLES OF ROOFING MAILED FREE ON REQUEST.



We will send you convincing proof of the quality and value of our roofing by sending you samples. We will also include on request samples of building papers. We guarantee to satisfy you if you order roofing direct from this advertisement or from any of our catalogs, but will be more than pleased to mail samples, as we know they will convince you. You cannot afford to buy roofing until you really know what our proposition means to you. Write today for our roofing samples.

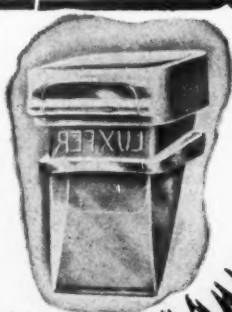
LET US MAIL YOU OUR MONEY SAVING ROOFING CATALOG FREE.

This advertisement merely touches upon our great line of roofing materials. No other firm has ever quoted such prices and guaranteed quality. We want everyone interested in roofing to get our latest complete Roofing Catalog, illustrating and describing every kind of roofing and building papers, the most complete, up to date and best line of roofing on the market, sold direct to you at actual cost to manufacture, with only our one profit added. Write today for our free Roofing Catalog No. 69C14.



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LUXFER PRISMS focus daylight. The light rays from the sky are drawn to basements or any dark place. The use of artificial light is minimized.

LUXFER PRISMS are best for all buildings. They are the most practical for Transoms, Canopies, Skylights, Floors and Sidewalks.

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BALTIMORE, 25 Old Builders' Ex.
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PITTSBURG, 1022 Fulton Bldg.
PHILADELPHIA, 807 Chestnut St.

ROCHESTER, 38 Exchange St.
ST. PAUL, 615 Ryan Bldg.
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AMERICAN Luxfer Prism COMPANY
1600 HEYWORTH BLDG., CHICAGO



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OUR KNOCK-DOWN SKYLIGHTS

with metal frames and glazing bars

GIVE SATISFACTION

They won't leak. Are easily installed by anyone with screw-driver and hammer.

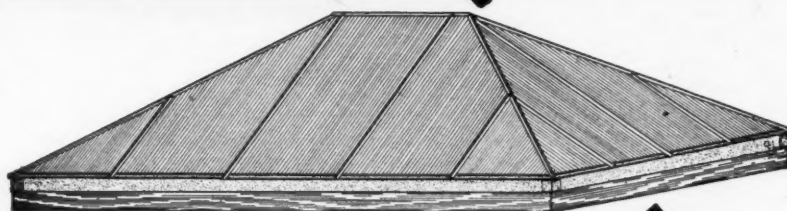
NO SOLDERING:

NO PUTTY:

LOWEST FREIGHT RATE

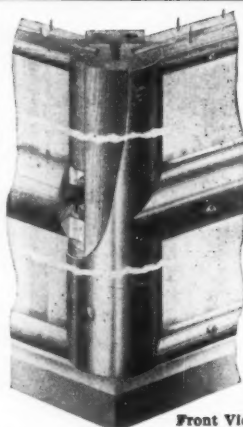
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"AND THERE WAS LIGHT"

Ask for "MORE LIGHT" on the subject.



Front View

COULSON Patent Store Front Construction

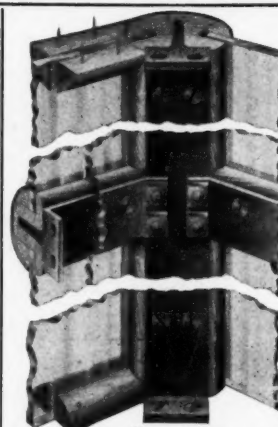
Of course you have heard of it, but let us tell you more about it. We will be glad to send you our complete illustrated catalogue, upon receipt of request. Brief description given on pages 643-645 in Sweet's Index for 1909.

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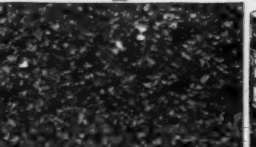


"Best Yet" Galvo Rubber Roofing is a very high-grade wool felt roofing thoroughly saturated with Gilsonite asphalt and coated with a secret rubber coat on both sides. Nothing better of this class manufactured. Each roll complete with nails and cement. Price: One-ply \$1.20 per sq., two-ply \$1.40 per sq., three-ply \$1.75 per sq. We offer our Central B and Flint Surfaced Asphalt Roofing, the highest grade of its kind, each roll complete with nails and cement.

Price: One-ply \$1.20 per sq., two-ply \$1.45 per sq., three-ply \$1.80 per sq. We offer Roofing Mill Ends of either the rubber surfaced or flint coated roofing at: One-ply 95c per sq., two-ply \$1.10 per sq., three-ply \$1.40 per sq. Samples free—charges prepaid.

Diamond C Brand Roof Coating

Will preserve any kind of roof, whether of metal, composition felt, or shingles. Price per 5 gal. can \$1.93, per 10 gal. can \$3.60, per barrel of 50 gallons \$12.50.



A Fortunate Purchase!

We have just purchased 2500 rolls of the highest grade roofing made by one of the leading manufacturers. It is thickly coated with crushed grit. The body of the roofing is a very heavy felt, heavier than the ordinary three-ply, and it is thoroughly saturated with Gilsonite asphalt and coated with the secret rubber coating. The roofing has rubber surfaced back and grit coat on top, and weighs about 80 lbs. to the sq. One of the biggest mail order houses is advertising a roofing similar to this as their celebrated "Marble Coat Roofing." Their roofing weighs about 58 lbs. to the sq. Our roofing weighs about 80 lbs. to the sq. Note how much heavier and stronger. Their price is \$2.25 per sq. Our special price on this roofing while it lasts, \$2.00 per sq. It is strictly perfect stock, not mill ends and is complete, with nails and cement. Samples sent free—charges prepaid.

Steel Roofing Only \$1.50 per sq. These are good second-hand sheets of heavy weight, free from nail holes, painted on both sides. Price per 100 sq. ft., flat sheets \$1.50. Price per 100 sq. ft., corrugated sheets \$1.75. Highest grade, Brand New galvanized roofing made of open hearth process, box annealed, the very best process of making metal roofing. Price per 100 sq. ft., flat sheets \$2.25. Price per 100 sq. ft., corrugated sheets \$3.10.

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Genuine Straight Run American Coal Tar Roofing Pitch. Best grade obtainable, not only for repairing leaks in any kind of shingle or tarred roof, but the finest thing for dipping fence posts. Sold only in full barrels of from 300 to 400 pounds. Price per 100 lbs. 65c.



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Our catalog gives the price of all the different grades. Special Bargain No. 2275 Red Rosin Sized Sheathing per roll of 500 square feet, 33c.

Hot Water or Steam Heating Plants

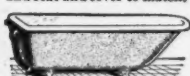
Bath Room Outfits and all Plumbing Fixtures and Pipe sold direct to you at manufacturers' prices.

You can have a modern hot water heating plant in your home, even though you live away from a city. The cost is low. Fuel bills reduced one-half. Install it yourself. It's easy. Now is the time to prepare for next Winter. We will furnish an estimate free. You will save 50% by dealing with us. Write for information blank now. You take no chances. Our contract plainly states that the plant will furnish the temperatures required in every room. We will supply free of charge all the material should any be required to bring the plant up to our guarantee. Each plant is sold on a year's trial. If not satisfactory we will refund the entire purchase price. Complete working drawings free. We loan complete tool outfits to do the work. You can install the plant at odd times and have it ready for cold weather. Better heating plants cannot be bought at twice our price.



\$39 Buys this high grade guaranteed Bath Room Outfit

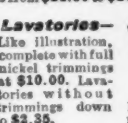
Bath tub 5 feet long, white porcelain enameled, trimmed complete with full nickel trimmings. Lavatory white porcelain enameled, complete with nickel trimmings. The closet is a high-grade modern sanitary outfit, with polished oak copper lined tank, and seat and cover to match. Other bath room outfits from \$24.50 to \$105.00.



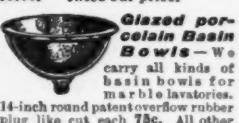
Bath Tube—Cast from white porcelain enameled, high-grade and with nickel trimmings at \$13.90. A number of slightly defective bath tube without trimmings at \$5.00 each.



Lavatories—Like illustration, complete with full nickel trimmings at \$10.00. Lavatories without trimmings down to \$2.35.



Galvanized Range Boilers tested to 200 lbs. pressure, 30 gallon boiler, only \$4.90. Complete with stand tube and couplings, \$5.50.



Glazed porcelain Basin Bowls—We carry all kinds of basin bowls for marble lavatories. 14-inch round patent overflow rubber plug like cut each 75c. All other sizes in our catalog.



Hot Water Heater—Hot water heat combined with your furnace. Our cast iron heaters in all sizes, can be fitted in your furnace so that you can put hot water radiators in those cool rooms and make a perfect heating plant out of your present poor furnace. Prices the lowest.

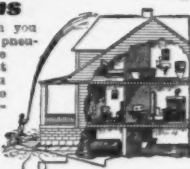
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and diaphragm sewer pump will handle any kind of muddy or gritty water or sewerage. Can't stop up. Capacity 1,500 gallons per hour. Price \$11.50



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We will furnish you with a complete pneumatic air pressure supply outfit that will furnish you running water the same as city water-works. Prices range from \$49 upward. We will furnish you complete house plumbing outfit like shown in this picture, including the pneumatic water supply system, the bath room outfit, the kitchen sink and range boiler and all the pipe and pipe fittings to install—\$125 upward.



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\$300 for hot water heating plant for this 12-room house including all material needed.



\$247 for all the material for a hot water heating plant for this 11-room house.



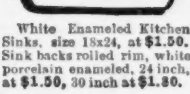
\$180. A first class hot water heating plant for this 8-room house for \$180.



\$135 is all it cost for a hot water heating plant for this 5-room cottage.



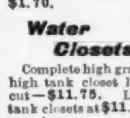
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White Enameled Kitchen Sinks, size 18x24, at \$1.50. Sink backs rolled rim, white porcelain enameled, 24 inch, at \$1.50, 30 inch at \$1.80.



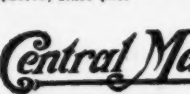
First grade rolled rim Kitchen Sinks—with long back and drain board and nicked faucets like illustration, size 18x30, \$18.75; 20x30 \$20.



Water Closets—Complete high grade high tank closets like cut—\$11.75. Low tank closets at \$11.25 complete.

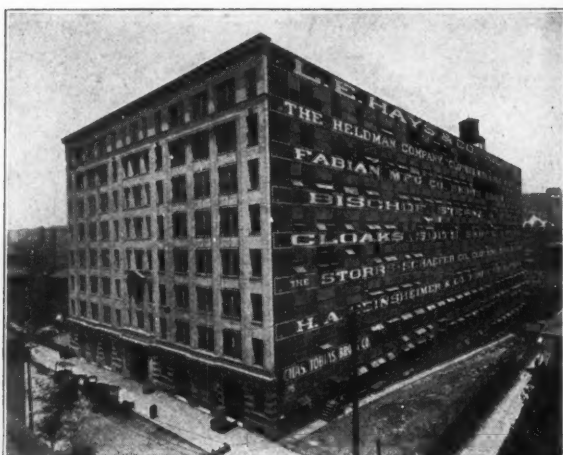
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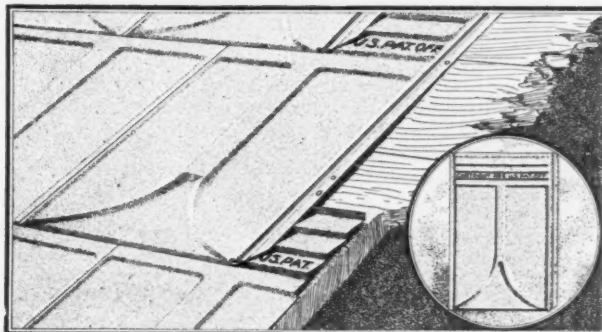
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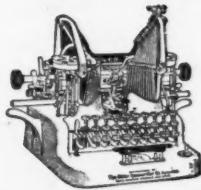
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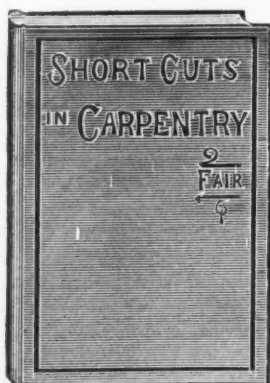
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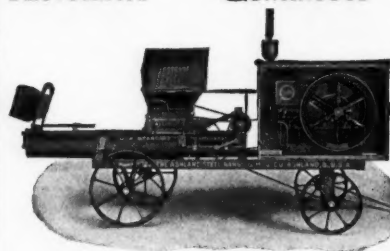
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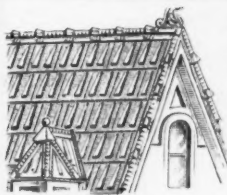
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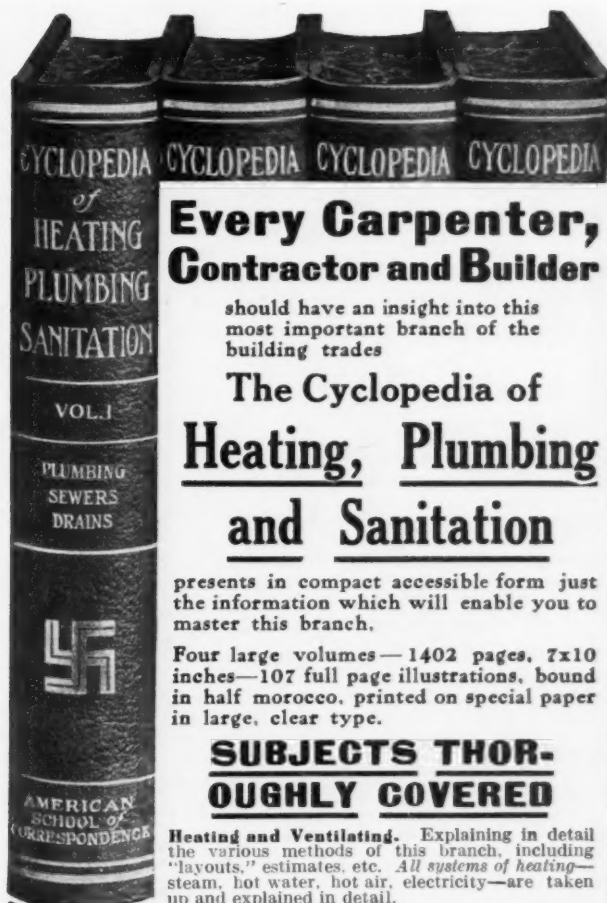
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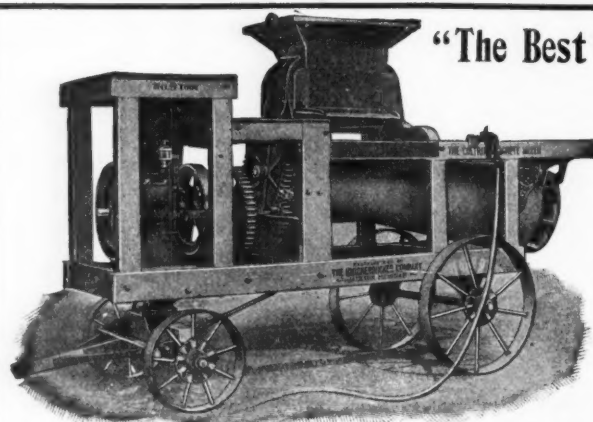
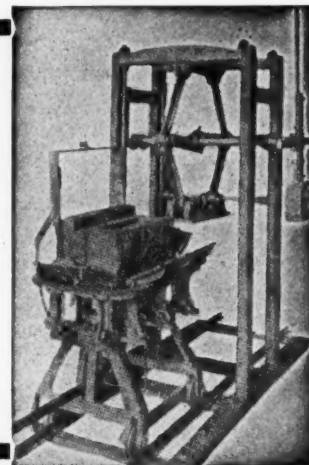
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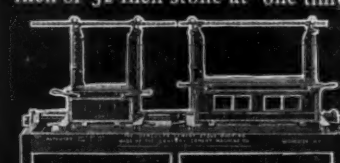
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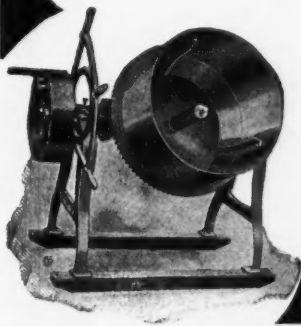
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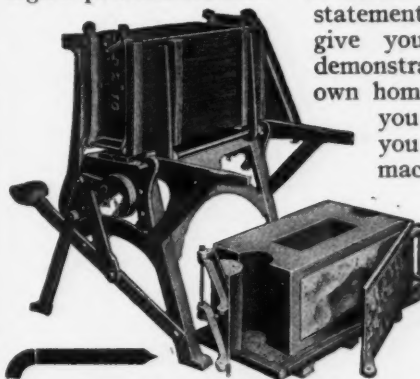
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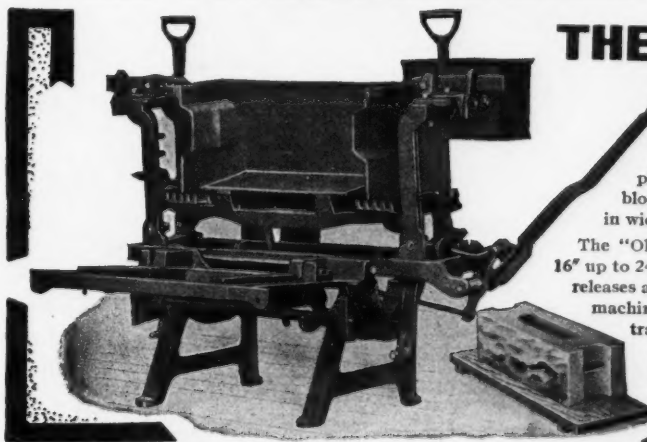
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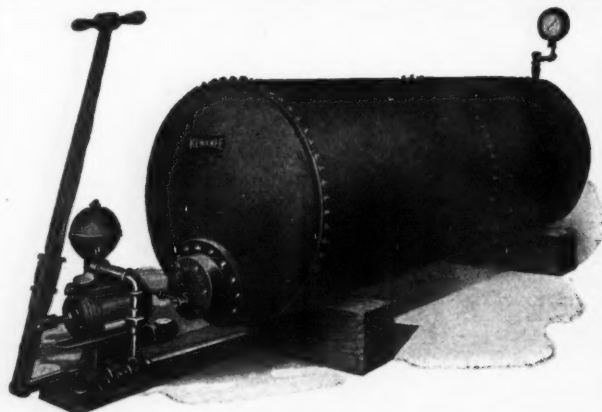
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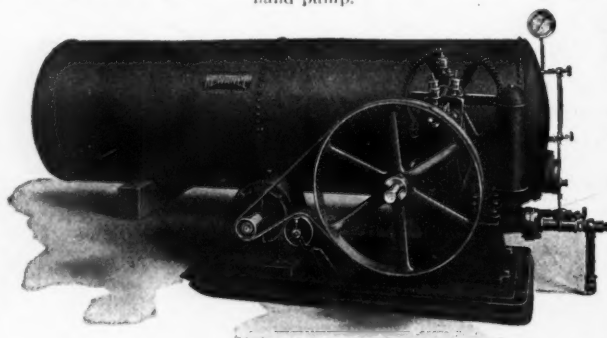
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NOTICE TO ADVERTISERS

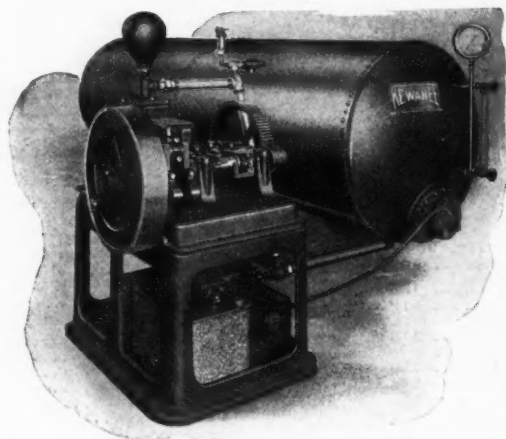
New copy, changes and corrections for advertisements must reach office of American Carpenter and Builder, 185 Jackson Boulevard, Chicago, not later than October 20 in order to insure insertion in November number.



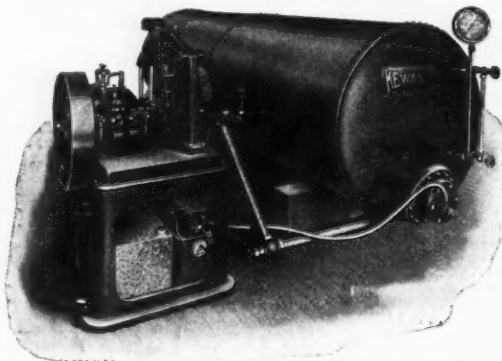
Complete No. 11 Kewanee System, including Kewanee tank and hand pump.



Complete No. 22 Kewanee System, including Kewanee tank and electric pumping outfit.



No. 250 Kewanee System, including Kewanee pneumatic tank and combined Kewanee engine and suction pump.



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NOTE—Many features of Kewanee Systems are covered by patents and cannot be had in any other water supply system.

Complete Water Supply Systems

Here are illustrations of four complete water works plants. Each one of these water systems is furnished complete, ready to set up, as shown in the illustration. To get the plant ready for operation, it is only necessary to add pipe from the pump to the source of supply and from the tank to the fixtures.

And then you will have a water system that will provide all the conveniences which would be possible with the best city water works system. This means an abundance of water delivered to all connections—bathroom, kitchen, laundry, lawn, barn, etc.; and that supply will have strong pressure behind it.

Limited space makes it possible to show only four combinations of

The Kewanee System of Water Supply

There are over seventy standard combinations in which the Kewanee System is furnished; and each plant is complete in every detail. Where a standard Kewanee System does not meet the requirements, a special Kewanee System will be constructed, assembled and tested.

There are over ten thousand Kewanee Systems in successful operation. They are being used for country and suburban homes, public institutions, schools, apartment houses, and even for small towns.

The Kewanee Pneumatic tank used in each Kewanee System is an air pressure tank. It is buried in the ground, or located in the cellar, or placed in a special pump house. It is superior to the elevated or attic tank because it cannot leak, freeze, overflow or collapse; and it will last almost indefinitely.

Kewanee Pumping Machinery has been designed and built for the exacting requirements of air pressure service; and our pumping rigs have obtained an enviable reputation for efficiency.

The Kewanee System is not an imitation—it is not a substitute. It is the **original** water supply system which involves the use of **air pressure** instead of gravity pressure. It is the standard for high quality; and every plant is backed up by a liberal guarantee of satisfactory results.

Write for our beautifully illustrated catalog; and when you have a water supply problem to solve let our engineering department submit complete specifications and estimates.

As a special favor, please mention the American Carpenter and Builder

KEWANEE WATER SUPPLY CO.

KEWANEE, ILL.

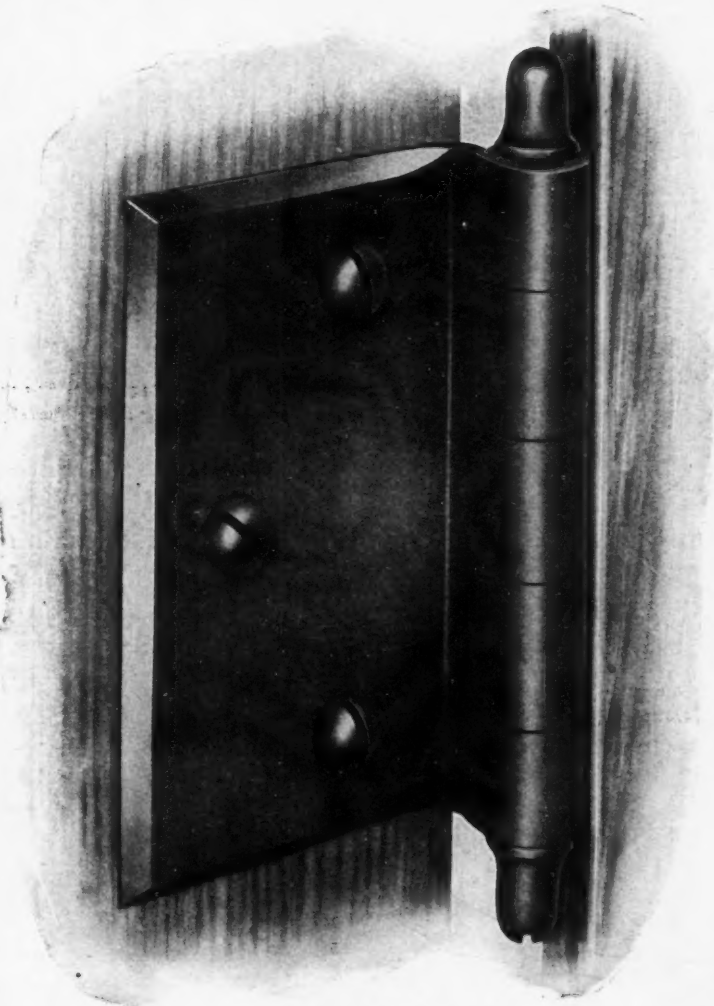
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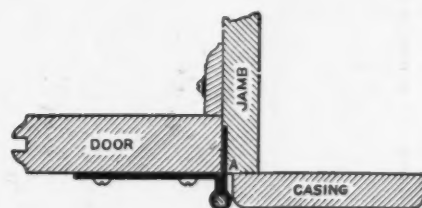
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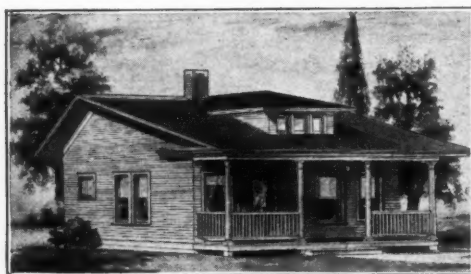
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